Vol. XVII. AUGUST 30th, 1906. No. 9.

SANDOW'S—— MAGAZINE

of PHYSICAL CULTURE.

2D.

Miss KELLERMAN
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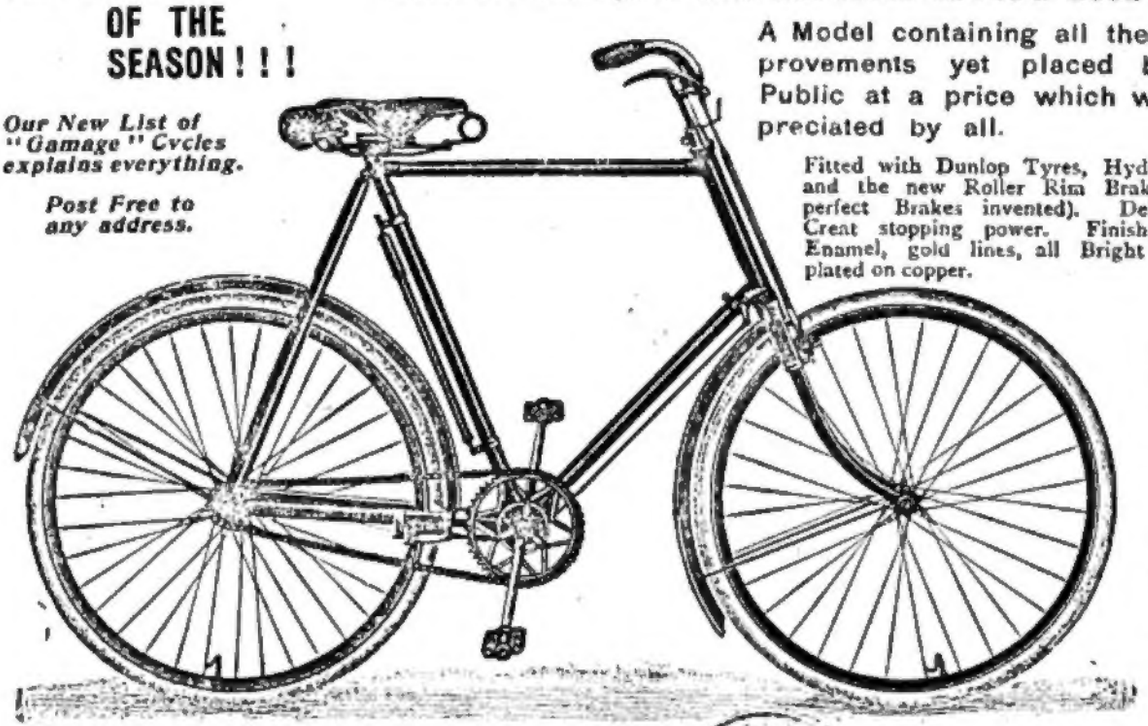

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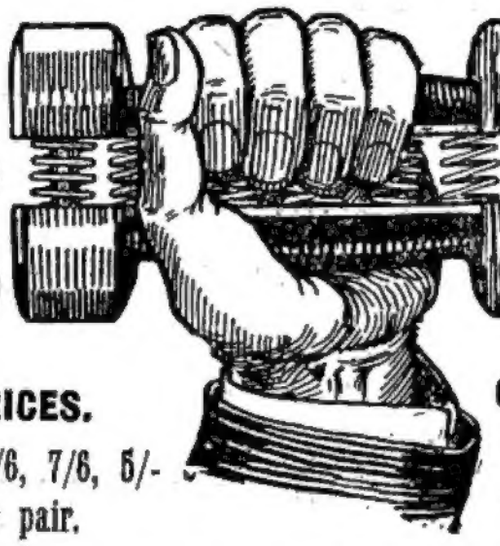

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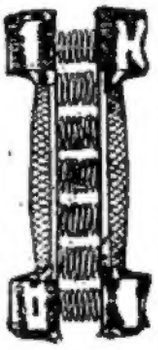

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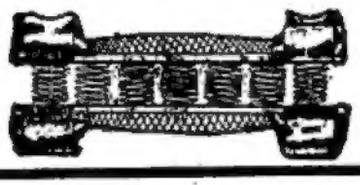

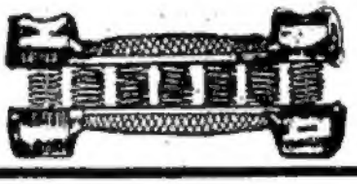

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The Author, Mr. G. Bojus, was formerly superintendent of physical culture in the Elizabeth (N.J.) public schools instructor at Columbia University (New York), instructor for four years at the Columbia summer school, and is now proprietor of the Park Place Gymnasium, at 14, Park Place, New York City. The book contains 200 photographs of all the various exercises, with the instructions in large, readable type. It should be in the hands of every teacher and pupil of physical culture, and is invaluable for home exercise as well.

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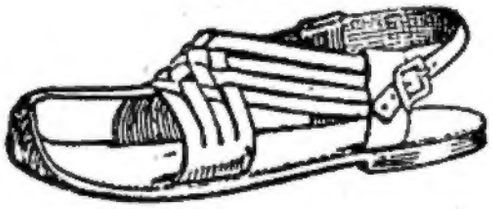

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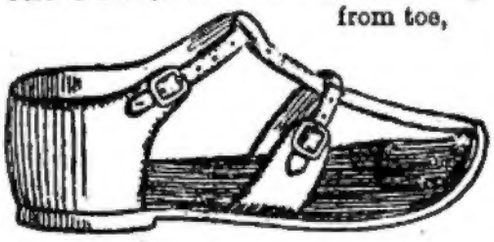

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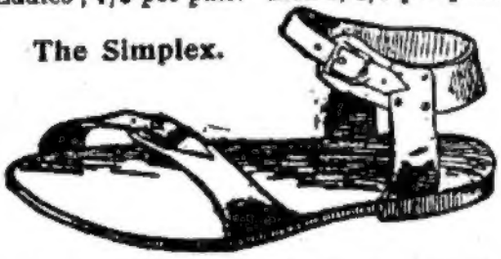

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(Est. 1898). VOL. XVII. No. 9. AUGUST 30, 1906.

SANDOW'S MAGAZINE

... OF ...

PHYSICAL CULTURE.

EDITOR: EUGEN SANDOW.
Assistant Editor: FRANK PINK.

MOTTO:—*Mens Sana in Corpore Sano*—A SOUND MIND IN A SOUND BODY.

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NOTICE TO CONTRIBUTORS.—The Editor will at all times be glad to consider Articles, Stories, and Sketches, but in order to avoid waste of time, contributors would do well to submit suggestions for his approval before sending in their work. In no case can the Editor be responsible for the safety of unsolicited sketches and literary matter, but where stamps are enclosed he will do his best to secure their return if unsuitable.

NOTES FROM MY NOTE-BOOK.

BY THE EDITOR.

I AM always pleased to be able to give publicity to those employers of labour who do not treat their workers as so many mere dividend-earning machines and who recognise the value—both from a humanitarian and a utilitarian view-point—of fresh air, exercise, and a wholesome environment. There has of quite recent years, I am glad to observe, been quite a rapidly growing tendency in this sane and healthful direction, and it is one of the best evidences of a desire for national physical regeneration. There are those who sneer at employers who endeavour to exercise even a well-disposed interference with the private life of their employees, but personally I am of opinion that a certain amount of sentimental attachment between employer and employed is desirable in the interest of both parties.

IT is all very well to advance the theory that purely personal habits should not be the business of employers; but surely an employer of labour is doing a wise and beneficent action if he endeavours to attract his workers from the din and the smoke and the sin of the City to a purer, healthful country life in some less injurious environment.

MEN like Mr. Lever, M.P., and Mr. Cadbury do not allow the interests of their workers to end with the time sheet and wage list, and do not their employees, in consequence, occupy a more enviable position than the poor City worker who finds little prospect of healthy recreation after business hours, and who is left open to the manifold temptations that threaten his or her future welfare? What, for instance, could be more iniquitous than the horrible system of living in, such as was described by a speaker at a recent meeting of the National Shop Assistants' Union? Poor food, uncomfortable apartments, and the danger through some delay of train or boat of being left on the streets of London for a whole night. The

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sooner such a system of business, with all its attendant injustices and inducements to immorality, is done away with, the better for all concerned and for humanity in general.

IT is a much more pleasing sign of the times to notice the tendency among employers to take their works and workers into the country. The latest firm to make this most advisable of changes is Messrs. Dent and Company, the well known publishers, who have just decided to have their bookbinding done at the new garden city of Letchworth. Bookbinders and printers are a class of workers who badly need pure air, for their work is very trying, especially when it has to be performed in stuffy, ill-ventilated, and badly lighted workshops. No fewer than five such establishments have now decided to erect premises at Letchworth, the others being Messrs. Vickers and Field, the Garden City Press, the Standard Company, Ltd., and the Heatley-Gresham Engineering Works. The workers in these establishments are to be congratulated, and I hope to see numerous employers of labour in other branches of industry following the example of these firms.

EVEN the staid old War Office, it appears, is being compelled to change its usual tortoise methods of progress in the matter of physical training for our Tommies. The old days, with their extended courses of gymnastics, have at last been weighed in the balance and found wanting. In the schemes of Army economy, drafted by Mr. Haldane and the Army Council after their inquiries, physical culture is to replace gymnastic instruction, a much desired change that I have long advocated. Gymnastic instructors will disappear from the Army *as* gymnastic instructors; but many of these have mastered scientific physical culture, and no doubt they will find remunerative employment in this direction. The old gymnastics, pretty though they were from the spectacular point of view, did not give Tommy Atkins a really satisfactory physical training, while they were expensive and unduly protracted, interfering with time that might have been better appropriated.

I WONDER if my readers ever pause to consider the actual influence of physical conditions upon their success or failure in life. A correspondence in the *Daily News*, under the heading, "Before the Abyss," in which a number of those who have failed, or who anticipate failure, in business has suggested the thought to me. I am convinced from the tone of despondency evinced in many of these letters that sheer lack of physical condition is in many cases the cause which has brought the writers of them to the verge of failure. The stomach governs the mind, and exercise governs the stomach. Indigestion and other common ailments are always dogging the busy man who does not give his body its due share of daily exercise, and these, mistakenly called minor ailments, lead to mental despondency, brain lesions, and a lack of courage which inevitably cause complete breakdown.

Too, often, alas! when these struggling people feel their activity failing they fly to stimulants and patent medicines, unconscious that in this way they are only further adding to the self-poisons that have already been generated in the stomach by lack of functional activity. Natural curative remedies, however, are the only safe and sure methods of cure in all such cases, and physical culture the only preventive. I venture to say that a regular course of exercise, under skilled supervision, would restore the spirits and brace up the vital forces of the majority of these despondent ones.

London Food Horror.

THE serious danger attending the blowing of meat by butcher's assistants, which has already been referred to in the columns of the *Daily Mail*, is accentuated by the statement of the Medical Officer of Health for Islington, that one man engaged at this work had been imparting tuberculosis germs to the meat. He died of consumption.

The Islington meat inspector says: "The abominable practice" is still carried on without any thought on the part of employer or employé. The Public Health (London) Act gives the public no protection in this matter.

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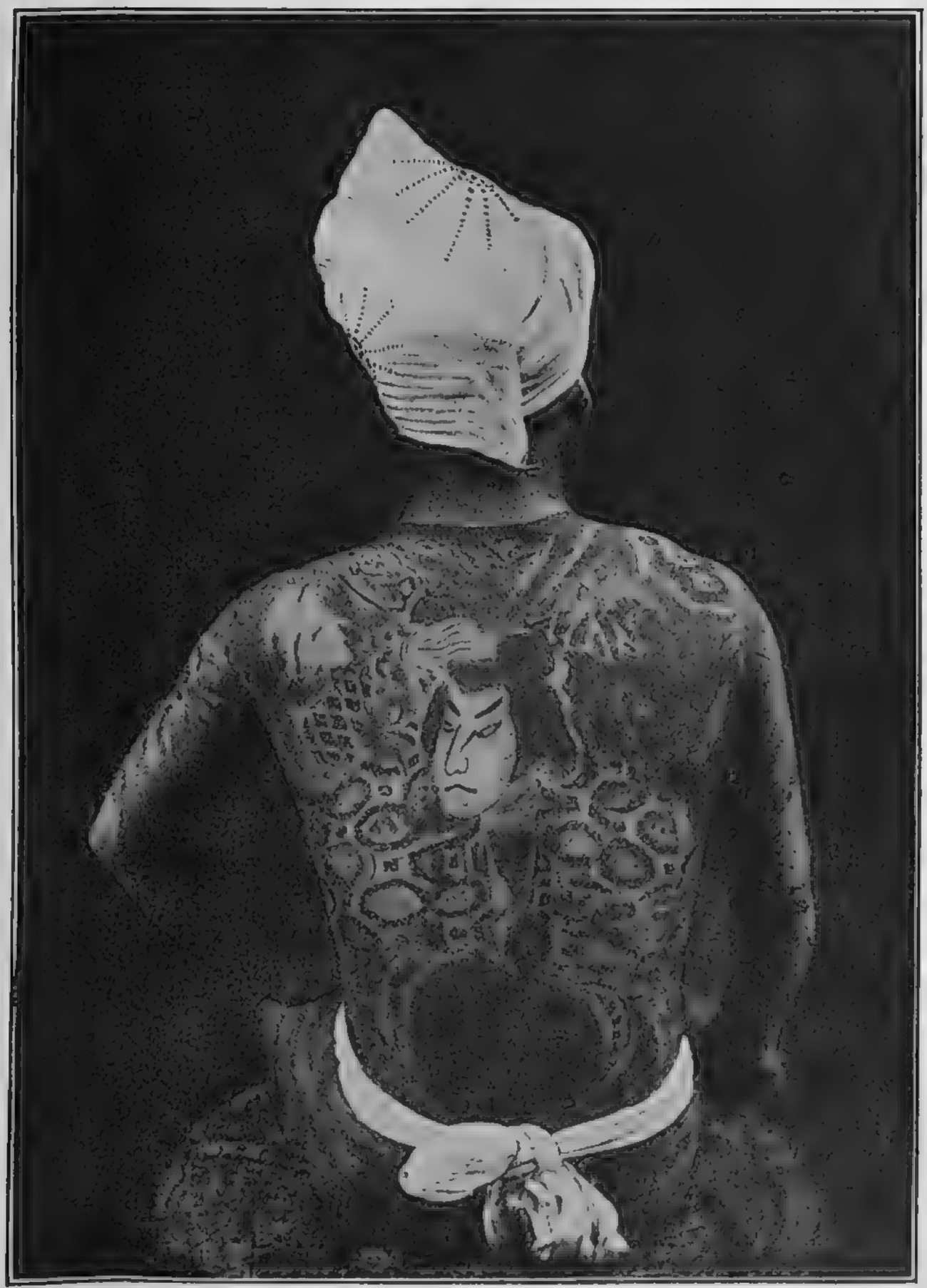


A LIVING WALKING PICTURE.

The Wonderfully Tattooed Back of an Indian Reader.

BOXING *versus* TENNIS.

THE PRIZE RING AND THE TOURNAMENT.

By Say Otis Brewster, M.D.

IN comparing the modern games of boxing and lawn tennis, I am conscious of their presupposed disparity and of the temerity of their collateral discussion. The dissimilitude, however, decreases with a study of the mental and physical processes engendered in their development; as the boldness of the claim may be dissipated from the minds of their votaries by a brief recital of the history, physiology and psychology of each. Their recognition in the category of games has occurred in the last generation, by the introduction of the Marquis of Queensbury rules with soft padded gloves; and the Marylebone code with Lawn Tennis Association rules and tight strung rackets.

Archæology demonstrates fisticuffs and racket and ball games centuries ago, while anthropology teaches us that the essential game principles, viz., combat and endurance, have remained the same, The chief advancement has been ethical. Together these games have passed through similar stages of brutality; from two primæval Britons with bat and ball, struggling to escape the torture stake, to the slaves of the Roman arena fighting for their lives with leaden gloves. They have been the sport of kings, warriors and gladiators. They have answered the call of the people for a champion from the plains of Troy to the courts of Wimbledon. The fighting instincts aroused and the joy of single combat is the same, whether tired opponents are driven from line to line with smashing drives or from corner to corner with lightning jabs.

Boxing received considerable attention in Ancient Europe, as evidenced by the writings of Homer and Virgil. To the modern devotee of the ring, however, it is essentially a British game. From its first noteworthy English exponent, "Figg" in 1719, to its golden opportunity for legitimate acceptance as a great game under the Amateur Athletic Club rules in 1866, little improvement was made over antediluvian methods.

The development of the ball game paralleled boxing, and from its supposed introduction by the Lydians in the reign of Atys to the Marylebone code of 1875, no worthy game of single combat developed from its use.

Public misconceptions have materially impaired the progress of both games. They have been unable to separate boxing, blood and profanity on the one hand, and tennis, croquet, striped blazers and physical degenerates on the other.

The game of the bat and ball is a fighting game, whether played on the Diamond Field or Court. The physiological requirements in training and in action are equal. The footwork and hitting are the same in action and intention, *e.g.*, the ground stroke of tennis has the swing lift, direction, force and result of an uppercut. The cross-cut-volley-smash is the same twist of the body and fixed position of the arm, as the short arm jolt. The short half-volley fixes the upper arm and snaps the forearm and wrist around in half pronation identically with the hook.

The drive has the movement, exhibition and result, "if successful," of the swing at head or body. Stop-volleying a hard drive, requires the same position, and precision as blocking. Close net volleying has all the elements and excitement of infighting with the odds equally in favour with the hardest fighter.

Safety hitting from the back court embodies the principles and headwork of the boxer sparring for an opening. The delivery of a hard blow settles the athletes alike firmly on both feet with knees slightly bent, and the combined action of trunk and limb muscles utilised.

Side-stepping to right and left as striker, to reach a fast service near the line, involves the same movements as side-stepping to avoid a rush.

Breaking ground backward to return a ball driven close to the feet is akin to the boxer giving ground when rushed.

Forcing the pace, and rushing, are similar. The physical strain in tennis is greater than in boxing. The tennis player covers a space 39 ft. by 27 ft., in uninterrupted play from one to two hours. The boxer works three minutes and rests one, in matches lasting from twenty minutes to an hour, in an area not exceeding twenty-four feet square.

The tournament tennis player engages in daily matches for a week; usually entering in eight or ten tournaments, in a season lasting about three months; while the boxer rarely engages in more than three matches in one week, and many of the most expert are not matched more than twice a year. The eye strain from constantly watching the ball in tennis is greater than the intermittent visual requirement of the boxer from his opponent's head and eyes. The highest development of co-ordination in both is capable of becoming automatic reflex action.

The muscular system grows symmetrically. The digestive and metabolic processes develop the power of normal function during exercise, nerve strain and differences in temperature, conditions which ordinarily place mankind at a disadvantage while under the stress of competition.

Psychically, the nerve strain is equal in the beginning of a match and greater in tennis as the games proceed. The closer personal relation in boxing relieves the nerve strain. The boxer can spar for wind without material loss: the tennis player relaxes play at his peril.

A champion in tennis defending his title will take the first game of a set against a superior rival by virtue of his position; as a champion boxer will outpoint a successful challenger in the opening rounds of a battle. The tennis challenger falls short with net faults as the boxer challenger falls short in his leads, until self-consciousness is overcome.

The leads, draws, stops, counters and tactical play for a decisive blow are alike, and whether the blow falls on the body with glove or the ground with ball, the damage to the spirit and endurance of the opponent is ultimately the same.

The self-control in one is as necessary and difficult to maintain as in the other. The tactical work, judgment of distance, time and variation of pace are identical.

The tennis player and boxer find little difference in exchanging games. In both cases, "other things being equal," the hardest hitter wins. In both games the lasting interest in them consists in the fact that "other things are rarely equal," and the strong man loses to a weaker but more scientific opponent. Recent developments in their progress have instituted more varied, accurate and harder hitting, thus shortening their time of action.

From an ethical viewpoint the superior position of tennis is unquestioned; that it will remain so indefinitely, remains for the public to decide.

Boxing has transgressed the moral law and is paying the penalty therefor. The average patron of the prize ring knows no more of the psycho-physiologic work going on before him than he does of tennis; if he sees blood he wants more blood. To him a champion exists only that he may howl at his downfall.

To utilise boxing for the benefit of the succeeding generations will mean, not laws discriminating between professional and amateur fighting, but its development in the modern system of physical education. England's progress has been due to her people's indomitable perseverance, which, in other words, is the fighting spirit that has placed her in the forefront of nations.

PROMOTING LONG LIFE.

"NOWADAYS," said a medical man, "long life is becoming more and more a question of mental health and fitness. The strong mind, even when allied with a defective physical frame, will often outlive those whose vigour is purely physical.

"Only in modern times have we begun to realise to what an extent the brain controls, sustains and vitalises the body. This is why to-day we see men of seventy and eighty years actively engaged in business life, and in many instances quite youthful in their ideas and mental energies. I could give you a dozen instances off hand.

"The fact is that in the higher nerve centre evolution goes on late in life; in fact, it is possible that with increasing mental development centenarians will eventually become plentiful. At present, however, brain and nerves are often too hardly worked, and thousands meet with a premature death as a result."

ARTICLETTES.

TO KEEP YOUNG LOOKING.

To keep young looking depends very much on oneself. Recently a beautiful woman gave to a girl admirer who asked her for her recipe for remaining "an evergreen" this advice:

"Never work on till you are seemingly at your last gasp, whether at your business or your pleasure, but rest as you go along. If you forego rest till your work is done, the chances are that you will then be too tired to take it. Get all the beauty sleep you can. Remember that late hours are fatal to good looks and health, and don't commit the folly of working far into the night, and then wondering why your work is not well done and you feel so good-for-nothing the next day. Shield your nerves, and don't let them become too sensitive. Make yourself take life calmly. If you lose a train, don't pace the platform wildly, but inquire when the next comes in, and sit down calmly to wait for it. That's just what most women don't do; they sit down, perhaps, but they tap the floor with their feet, clinch and unclinch their hands, and are apparently in a fever heat of excitement over the arrival of every train that comes in, even though they have been assured that theirs is not due for another half hour. That half hour of waiting means to them a frightful wear and tear of nerves, and they are practically weeks older for it. Try to cultivae calmness, but if you cannot do that all at once, you can keep your face still."

MILEAGE OF THE HUMAN BLOOD.

THE speed at which the blood circulates in the veins and arteries of a healthy man is something surprising. All day long, year in and year out, the round trips continue from the heart to the extremities and back again. The red blood corpuscles travel like boats in a stream, going to this or that station for such service as they have to perform; and the white corpuscles, the phagocytes, dart hither and thither like patrol boats, ready to arrest any contraband cargo of diseased germs.

The mileage of the blood circulation reveals some astounding facts in our personal history. Thus it has been calculated that, assuming the heart to beat sixty-nine times a minute at ordinary heart pressure, the blood goes at the rate of two hundred and seven yards in the minute, or seven miles per hour, one hundred and sixty-eight miles per day, and six thousand three hundred and twenty miles per year. If a man of eighty-four years of age could have one single blood corpuscle floating in his blood all his life, it would have travelled in that time five million one hundred and fifty thousand eight hundred and eighty miles.

OYSTERS.

IT is said that a quart of oysters contains about the same quantity of actual nutritive substance as a quart of milk or a pound of very lean beef or a pound and a half of fresh cod-fish or two-thirds of a pound of bread. But the uses of nutrients vary; for instance, the lean meat and codfish are most flesh formers, consisting largely of protein; while the bread, with its starch, has but little of these, and serves the body as fuel, and supplies it with heat and muscular energy. Oysters come nearer to milk than almost any other common food material both in amount and proportions of nutriments Their values for supplying the body with material to build up its parts, repair its wastes, and furnish it with heat and energy, are pretty nearly the same.

THE DIET.

IT is very satisfactory to see in the columns of many of our lay contemporaries, that a large amount of public attention is being directed towards questions of dietary, and that, notwithstanding the prevalence of many half-truths and of more exaggeration, there is evidence of a manifest desire on the part of the present generation to live more wisely than was the custom of their ancestors. The increased longevity of the last half century is probably due as much to diminished eating as to any other of the many single causes to which it has been attributed. The man who every day partakes of hors d'œuvres, and soup, and fish, and entrées, and a joint, and game or some substitute for it, and sweets and dessert, has likewise given an acceptance, and will certainly some day be called upon to honour it on demand. The vagaries of vegetarianism or other fanciful plans of diet resolve themselves into this, that it is essential to health to eat moderately, to masticate the food, and not to eat too much. If these rules be observed, the character of what is eaten may be regarded as a matter of comparatively small importance.—*The Hospital*.

TRIPS FOR HOME WORKERS.

MUCH useful progress has been made with the objects of the Home Workers' Aid Association, of which Mr. Thomas Holmes is the honorary organiser. It is desired that the whole of the London home workers should be enrolled in the Association. During last year 250 women had a fortnight's rest in the Association's Home at Walton-on-the-Naze. There is difficulty in many home workers leaving their work for so long a period, so Mr. Holmes is arranging for such women to have occasional day trips.

HOW TO KEEP IN CONDITION IN HOT WEATHER.

NO matter what the mood of the poor climate may be, we abuse it, roundly, heartily. We complain of the August heat just as we revile the cold of January. This is not exactly an idiosyncrasy. Indeed, so far as the majority of us are concerned, the principal cause of our perpetual growling at the climatic conditions, and incidentally at the world in general, is our system of eating and drinking. We eat to grumble.

This question is such an important one, seeing that it affects every one of us that I seized an opportunity the other day (writes a representative) of calling upon a famous authority on diet. He is a specialist, whose consulting-room is literally besieged by persons whose dietary has been a curse to them.

"The diet of the average man or woman doing ordinary work in hot weather ought to be very sparing," observed the doctor in reply to the first question that I was privileged to put to him. "Fats, sugar, and excess of starchy food should be avoided. The diet should consist in the main of strong, clear soups, fish, the lighter kinds of meat, an abundance of green vegetables, salads, and fruits, together with plenty of pure water, soda water, or any ærated water free from sugar."

"What diet would you recommend to the man who is not active physically?"

"Sedentary men eat a great deal too much," the doctor replied, "but the quantity of food that a person should consume depends upon his age, the exercise that he is accustomed to, and numerous other factors. My experience teaches me that with respect to moist food—meat, fish, vegetables, bread, and all the various eatables that constitute the daily menu—about twenty-four ounces are sufficient in the case of the sedentary man. Not a little, of course, depends upon the size of the individual, for a big man needs much more than a small man. To explain what I mean, it will readily be understood that a toy terrier, who is a dog, does not require anything like the amount of food that a St. Bernard does, who is also a dog. I am told that in some German

A Famous Veteran Walker with his Highland Piper.

regiments the allowance of food is regulated according to the size of the men."

"Now as to the active human being, doctor—the holiday maker, the golfer, the cricketer, the mountaineer, the cyclist?"

"In the case of the active man," said the doctor, "assuming that he is of medium height and weight, from ten to twelve ounces more moist food per day are required to be taken than in the case of the sedentary individual. Anything beyond this is injurious."

"Perspiration is a trouble that we have to contend with just now, doctor."

"Excessive perspiration," the doctor continued, "is in a measure a matter of heredity. The skin of some persons is very thin and acts freely, but, of course, the skin should be incited to act properly by indulgence in regular exercise. The action of the skin is a most important factor in maintaining health, and in preventing congestive diseases of all sorts."

"By the bye, doctor, what is the effect of alcohol on thirsty mortals?"

"Judging from my experience, a vast amount of nonsense is written and talked about the effects of alcohol. I do not, however, believe that alcohol is a food, or that it is of any service to the healthy. On the contrary, I am convinced that it is the greatest curse that has ever been inflicted on humanity. It is not a necessity; it is simply a luxury—save naturally in illness—yet if it is consumed in strict moderation, and if it adds to the pleasure of life, there is no reason why people should not have it.

"As regards the question of alcohol as a food, in dieting for the reduction of weight I have observed some curious circumstances, which I have never seen explained, and which would be difficult to explain. I refer to the fact that in dieting patients for the reduction of weight, after having cut off all fat-forming foods, I do not find that the decrease in weight is so rapid when the victim of over-stoutness takes a liberal amount of whisky, as it is when alcohol does not enter into the question.

"I might theorise as to the cause of this. If alcohol is not a food in any sense of the word, why should it arrest the decrease of fat? My own opinion is that the absolute action of alcohol on the system has never been properly or scientifically determined. It has an occult influence, but it requires tremendous experience and most careful supervision to discover what its influence is. It is all very well to assert that alcohol maintains strength in depressed states of the system, as in fever and so on, but my view is that although for a short time it does so, its continued use, even in instances of extreme nervous collapse, is utterly wrong."

"Is water, then, the best beverage?"

"Undoubtedly it is if it is pure, but, as I have often mentioned when writing on the subject, more people are killed by drinking water than by drinking spirits, for the simple reason that there is no proper surveillance as to the purity of water, and therefore many diseases, such as typhoid, owe their origin to impure water."

"What are the most frequent mistakes we make in the matter of eating, doctor?"

"The most common errors in diet are those that comprise taking too much food, and that food of a kind not adapted to the constitutional demands of the individual. It is not the quantity of food that we eat, but the way we assimilate it. There are many people who eat large quantities of farinaceous food and sweets, but hardly assimilate any of it, and in such cases they require less food in bulk, but properly proportioned. I have always considered that the matter of food in relation to the requirements of the individual is of vast importance to health and duration of life, but it is difficult to get people to realise this. 'Oh, eat anything that agrees with you,' says the ignorant adviser. True, in moderation, but how few understand this."

"Should one enjoy eating, doctor?" I inquired finally.

"Why not? There is no doubt that the more pleasure an individual takes in eating his food, *within the requirements of appetite*, the more good it does him; but eating to repletion, beyond the needs of healthy appetite, is simply giving way to gluttony, which is on a par with giving way to drunkenness, and kills as many, or more."

INFLUENCE OF MUSCLE ON MENTAL POWER.

By Harry Nelson Jennings.

IT is related of the Duke of Wellington that once, while watching boys engaged in their sports on the play ground at Eton, he made the remark, "It was there that the battle of Waterloo was won." And no one comparing the burly, robust Englishman with the pretty but effeminate soldiery of France can choose but to believe that he was in the right. In England very great attention is paid to the physical development of its youth, and in France very little, and the result is very clearly shown in the armies of the two countries.

To have a good body and a sound constitution is the first and most essential element to success. The leaders in all departments of life have almost invariably been strong men physically as well as mentally. Of course, there are some notable exceptions to this rule; for example, blind Milton; Hascal, who was an invalid at eighteen; Pope, also an invalid and a hunchback; Julius Cæsar, who never planned a great battle without having an attack of epilepsy; and the great Aristotle, who, though having the body of a pigmy, possessed the intellect of a giant. But these are only the exceptions which prove the rule. The fundamental principle is unshaken, that it is the men who possess the good, finely developed bodies who win the laurels in the struggles of life. This is true of men in all walks of life. It applies to the merchant as well as the farmer, to the bank clerk and to the policeman, the student and the athlete.

We need not, and could not, all be champion strong men, but each should work for that degree of muscular development which will enable him to carry out his life work most successfully. Again I say that it is all-important that a person have a healthy and well developed body, and, if a man aims to be a leader, this is almost indispensable. Horace Mann says: "I am certain I could have performed twice the labour, both better and with greater ease to myself, had I known as much of the laws of health and life at twenty-one as I do now. In college I was taught all about the motions of the planets, as carefully as though they would have been in danger of getting off the track if I had not known how to trace their orbits; but about my own organisation, and the conditions indispensable to the healthful functions of my own body, I was left in profound ignorance. The consequence was, I broke down at the beginning of my second college year, and have never had a well day since. Whatever labour I have since been able to do, I have done it all on credit instead of capital—a most ruinous way, either in regard to health or money. For the past twenty-five years, so far as it regards health, I have been put, from day to day, on my good behaviour; and during the whole of this period as an Hibernian would say, if I had lived as other folks do for a month, I should have died in a fortnight." Such is the testimony of one of the best educators America has produced.

Until lately muscular development has been despised as associated chiefly with rowdyism, and the aim has been to develop the mind to the utmost total neglect of the body. But the people are beginning to awake to the fact that the body as well as the mind has rights that are bound to be respected, if the best results are to be secured, and if a man is brutal and quarrelsome it is not the fault of his athletic training, but it is the nature of the man. Perhaps the pale sickly student who spends his night hours that should be given to rest in pouring over his studies for the succeeding day, will win the most of the honours at school, but the tough, sinewy, athletic fellow, who devotes a portion of his time to sport and needful rest, will, other things being equal, achieve the greater success in after life. A comparatively weak mind with a Herculean frame will achieve greater results than a

giant mind with a shattered constitution. A great deal is said about the danger arising from athletic sports, and, indeed, there is a certain amount of risk in them all, from the danger of a sprained ankle at tennis, to the chance of a black eye at boxing, but we do not wish this to degenerate into a spoon-feeding age, and while the horror of these good people who set up a great cry when a professional pugilist gets a lungful of wind thumped out of him, or a sturdy boy of eighteen or twenty suffers a bruised knee or sprained ankle on the gridiron, may be something very beautiful, yet it will be a bad day for the country when a black eye or a sprained knee constitutes martyrdom.

What we want is a continuance of that self-reliance which made our men stand firm in battle, and hold out in the trenches before the enemy and uphold the honour of their country, without a thought of wavering on account of their own discomforts. To improve and cherish this national self-reliance individual trouble and struggles are necessary. When small dangers have been faced without flinching, greater ones come easier, and all I can say is, that if our sons are to be wrapped up in cotton wool for fear of getting their precious persons injured, or losing a little blood, the sooner we throw up the national sponge the better.

The effect of the culture of the body is best seen in the ancient Greeks and Romans, with whom it was a part of the regular school routine. It was not confined to the athletes of the day alone, but orators, poets, pilosophers and statesmen strengthened both mind and muscle by indulging in abundant athletic exercises. It is related of Cicero that he once found himself a victim of dyspepsia, and instead of consulting the physicians he gave his attention to the gymnasium, and at the end of two years, he emerged as strong and robust as ever.

The result of physical culture is seen by comparing American statesmen with those of England. The public men of England as a rule are much healthier and longer lived than those of the United States, which is probably entirely due to the physical exercises in which they indulge. The public men of America are too ambitious. They live too fast. The desire to outstrip others in the race for fame leads them to overwork the mind to the almost total neglect of the body, thus in time seriously impairing both intellect and constitution. Very few of our statesmen or other public men live to an advanced age, but break down from overwork in what should be the prime of live, and the rare exceptions are found to be men who have given the laws of health that attention which is required to preserve a sound and healthy constitution. In England all this is different, as physical education receives almost, if not quite, as much as mental, and riding, walking, boat racing and other sports are really a part of the course at her schools and colleges. The benefit of all this is very plainly seen in the history of her people. That the splendid empire, which England has founded in every quarter of the globe have had their origin largely in the football contests at Eton, the boat races on the Thames, and the cricket matches on her downs and heaths, who can doubt?

EVERYONE whose taste or whose calling leads him to undertake the adjustment of machinery of whatsoever kind, from sewing machines to motor cars, has again and again experienced serious difficulty in freeing his hands from the greasy dirt which is inevitably associated with the working parts of such appliances, and which liberally transfers itself to the operator's skin, taking up a firm lodgment in the pores thereof.

In the ordinary pursuits of life, occasions frequently arise in which one would be thankful for a means of removing such defilement from one's hands without injury to their surface, and without great expenditure of time. The housewife in her domestic occupations, the amateur carpenter, painter, or plumber, the "handy man" who has a penchant for tinkering all sorts of things, from locks to lawn mowers, these well know the feeling of desperation which seizes on them when summoned from their labours to greet some caller. How endless seems the process of bringing the hands to a presentable condition!

"Ethol" (pronounced Ee-thol) is a liquid soap invaluable to everyone whose occupation or hobby involves an acquaintance with grime. It combines with grease, rendering it fluid and capable of being rinsed off the skin, and cleanses the hands more quickly and effectually than any other means we have been able to meet with, doing so without the aid of strong alkali or of gritty material such as powdered pumice stone, which is by no means without ill effect.

HEALTH HINTS.

AVOID foods that disagree with you.

Do not wash the food down with liquids.

Do not eat when fatigued or when overheated.

Avoid an excess of sugar, sweets, and starchy food.

Carrots are good for those having a tendency to gout.

Rhubarb should not be eaten by "gouty" or rheumatic people.

Do not eat between meals (habitually) or at irregular intervals.

Dates are exceedingly nourishing and also prevent constipation.

Asparagus and celery are both beneficial to sufferers from rheumatism.

A gargle of salt and water is a remedy for an ordinary sore throat.

Three pints of water daily should be drunk by the average man.

Avoid iced drinks at mealtime, particularly at the beginning of the meal.

Avoid over eating. Of the two evils, it is better to eat too little than too much.

Water standing in a room is a good disinfectant, as it absorbs all impurities.

A piece of raw onion rubbed on a troublesome chilblain is very soothing.

Apples pared are particularly wholesome for "gouty" people and those with a sluggish liver.

A little parsley eaten immediately after onions will remove the odour from the breath.

The juice of grapes is laxative, but the skin and seeds are likely to cause constipation.

Lettuce has a soothing effect on the nerves, and is excellent for sufferers from insomnia.

Let the lashes alone. Too much trimming is certain to weaken the strength of the eyes.

Lettuce, if well masticated and the stalks avoided, is easily digested, even by dyspeptics.

The juice of lemon is excellent as a gargle for sore throat, but must not be swallowed.

Girls and women are benefited by riding the bicycle, but the fair sex is cautioned not to over-exert.

There is nothing more soothing in cases of nervous restlessness than a hot salt bath just before retiring.

Cranberries are astringent, and correct the liver when it is suffering from reaction caused by over-eating.

The juice of a lemon, without sugar, in a tumbler of water, night and morning, is an excellent remedy for biliousness.

The skins of almonds are very indigestible, therefore it is always best to blanch the almonds in hot water and rub them off before using.

Grape fruit is said to have in smaller degree the qualities of quinine, and will actually allay inflammation and break up malarial disorders if taken in time.

A paste of fresh butter and pulverised resin, spread on a linen rag, and applied to sprains will frequently effect a cure.

Physicians assert that baked potatoes are more nutritious than those cooked in any other way, and that fried ones are the most difficult to digest.

People with poor digestion should drink no water with meals, but take a glassful half an hour before, and drink plentifully an hour or so after each meal.

People will eat hot dishes and wash them down with iced drinks, and then wonder why their teeth can't stand such a terrific and sudden change of temperature. Filled teeth are extremely sensitive to such changes, and neuralgia frequently results.

THE STRENGTH AND SYMMETRY OF MAN COMPARED WITH ANIMALS.

By George Elliott Flint.

WHY is it that civilised man, the noblest of all animals, is the most unsymmetrical? And yet we all love symmetry of form; the old Greeks and Romans even worshipped it. In remote ages, sculptors and artists moulded and painted the nude forms of their gods and goddesses, heroes and heroines so skilfully, that the works of some of the old masters seem to us almost sublime in their perfection of outline. What man or woman in poetical ancient Greece would have worshipped a potbellied god or a scawny-necked goddess? Is it not sad that many men in our modern times, whose fine brains and ripe judgment have commanded the respect and admiration of the world, have possessed bodies so disproportioned as to be grotesque? Luckily, the numerous memorial statues which we erect at the present day represent our heroes properly dressed. Dress, like charity, covers a multitude of sins.

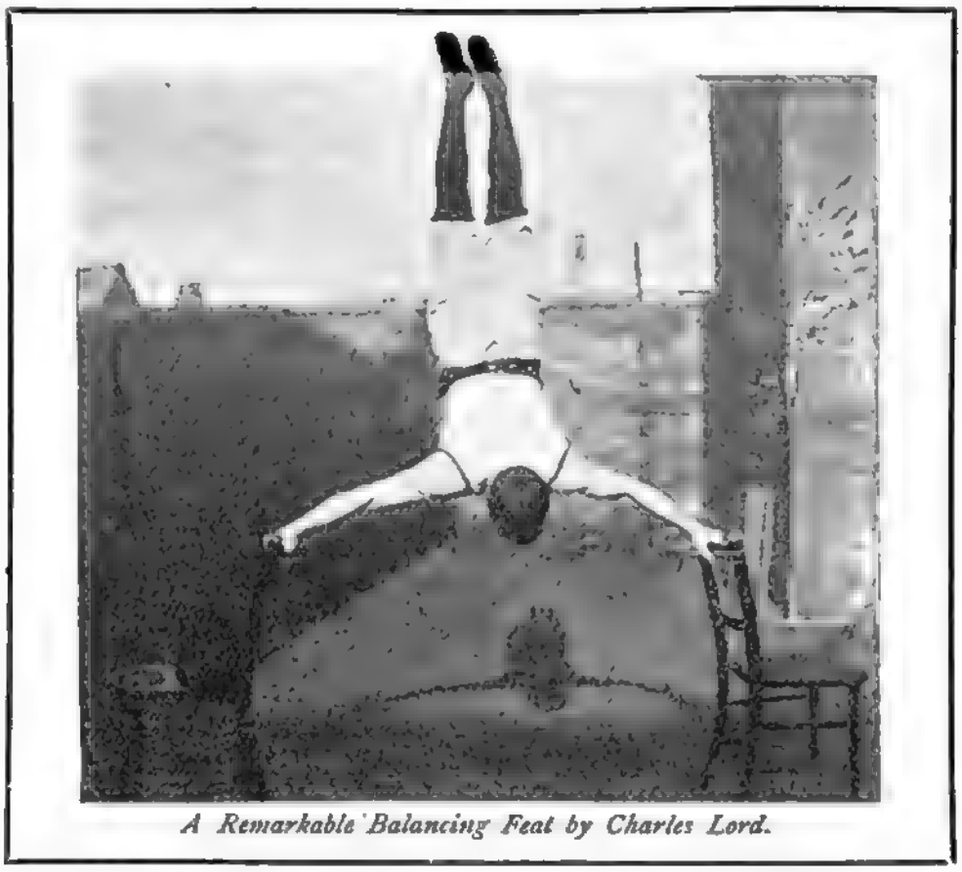
Wild beasts are seldom badly proportioned. The hunter safely perched on the back of an elephant cannot but admire the tense muscles and beautiful symmetry of the tiger as he creeps stealthily through the jungles of India. The African lion is magnificent in the majesty of his tawny strength; and the wild horses that roam the deserts of Arabia are models of grace and beauty.

The problem of exercising our domestic four-footed beasts is very easy. When a horse or a dog runs or jumps *all* the muscles contract powerfully and actively; and this equal energetic contraction of all the muscles develops well and evenly the whole animal. Almost all active quadrupeds, therefore, have a beautiful symmetry of form. Make a horse or a dog run fast for fifteen minutes every day, and they will keep in good condition and retain their natural, graceful shape. But what exercise can a man take that will develop well and evenly all his muscles? Walking, running and jumping, the natural exercises for the human animal, exercise energetically only the muscles of the lower limbs. The vast majority of men are non-athletic; and yet, most healthy men have well developed legs, simply because they are obliged to use them more or less every day in attending to the ordinary duties of life. They must walk a little, even if it is only to a conveyance; they are often obliged to stand, and they must go up and down stairs several times a day. Recollect that all leg work is necessarily heavy work; for the legs are obliged to support the entire weight of the body. Walking upstairs is pretty severe exercise for the lower limbs. But the most important and best parts of a man's body, viz., the arms, shoulders, chest, back, loins and abdominal muscles are, ordinarily, hardly used at all; and the little work that they do is as light as possible. The inevitable result of light work for the muscles of the upper body and heavy work for the muscles of the lower body, is loss of symmetry, especially toward and after middle life. Persons with bad and even ridiculous figures have become so common that they attract, in public places or on the street, no attention or comment whatever. It is easy to see why non-athletic men gradually lose their figures. Their abdominal muscles are never called upon to bear the strain that the leg muscles are subjected to daily; so, while the legs become strong and shapely, the first named muscles waste and become weak, and the cumbrous fat which has disappeared from the lower limbs is deposited around the abdominal walls; for, while powerful muscular contractions destroy and prevent the formation of fat, feeble contraction cannot keep away this health

destroying incubus. For the same reason —lack of hard work—the arm, chest, back and shoulder muscles become weak, and infiltrated with fat.

Modern physical culturists seek to correct this tendency of man to inequality of development by recommending light exercises for the arms and upper body; but they seem to forget that the legs do heavy work—a little thought will convince any one that the legs never perform light exercises—and that, it being natural and physiological for the leg muscles to do heavy work, it cannot be unnatural for the muscles of the arms and chest to do likewise. The writer entirely believes in exercises that give flexibility and elasticity to the muscles, but he does not believe in the wisdom of recommending light exercises exclusively for the muscles above the waist. A man should not only be equally developed all over, but the muscles of his arms and body should be as strong in proportion to their size as the muscles of his legs, and this condition cannot be attained unless he does *regularly* a certain amount of heavy, hard work with the arms and body. The muscles can be kept supple at the same time by performing some quick, active exercises in conjunction with the heavier work.

Business men, doctors, lawyers, teachers, salesmen, clerks, overseers, car conductors, detectives and policemen are not obliged by the exigencies of any of these callings to do regular hard work with the muscles of the upper body, and, it being a natural instinct of all animals, man included, not to do that which they are not obliged to do, is it any wonder that an evenly developed, symmetrical man is the exception rather than the rule? These "exceptions" are largely recruited from the ranks of men who *are* obliged by their vocations to do hard work with the arms as well as with the legs, such as gymnasts, wrestlers, weight lifters, oarsmen, blacksmiths, porters, furniture movers, truckmen and the like.



A Remarkable Balancing Feat by Charles Lord.

The conclusion which we reach then is, that animals—especially wild animals—as a rule, are symmetrical; while man, as a rule, is unsymmetrical. The reason, briefly stated, is, that *all* the muscles in the bodies and limbs of most animals are subjected daily to almost equal strain

they, therefore, develop evenly, and fat is not deposited more in one place than another. But in man the leg muscles *only* are subjected to *heavy* strain; so, naturally, the legs become strong and sinewy, while the muscles above the waist become puny, soft and fat, the fat accumulating particularly about the waist.

To refer again to the natural laziness of animals, it has often occurred to me that many wild beasts would not exercise enough to keep in good health were it not that, driven by the pangs of hunger, they are frequently obliged to forage for food. But domestic animals are not forced to work for their food; it is given them. It is natural for a puppy to run about and play, but a full grown dog will merely sit around and look at you in a dignified way—when he isn't asleep. A dog must be taken out and made to run, or he will get fat, lazy, and out of condition. Country dogs are generally fat and good-for-nothing, for, contrary to popular belief, they run about very little.

The gorilla, the type of animal most nearly resembling man, unlike man uses his arms as fully as his legs; he walks on all fours, or climbs from one tree to another by seizing a branch with one of his powerful arms, and pulling up his heavy body. This animal has great strength, and can easily lift a man from the ground with one hand.

The lion often kills its prey with a single stroke of its paw. It can pull down an ox, or pick up a man in its mouth and trot off with him, just as a cat runs away with a kitten.

An eagle can rise from the ground with a lamb in its talons by beating the air with its great wings.

Even the little ants can lift and carry objects many times their own weight.

But how does the strength of *trained* men compare to the strength of animals? By trained men I do not mean professional runners, jumpers, bicycle riders or even boxers; I mean athletes who have become strong all over by doing heavy, hard work with all their muscles; men whose arms are as strong as legs and whose development reminds one of the famous old Grecian statues.

In "Quo Vadis" we are told how a gigantic man named Ursus seizes an enormous bull by the horns and slowly twists its neck until he breaks it. The story is manifestly absurd, for the neck of a bull is tremendously thick, and it is the strongest part of this strong animal; and no man, unless he were about fifteen feet high and built proportionately, could overcome a bull in a trial of mere brute force. It might be possible, however, for a very strong man who was also very clever, to *throw* a bull. To do this the athlete would first have to seize him by the horns; then a sudden twist might possibly throw the top-heavy brute off its balance.

I remember reading in a newspaper a few years ago about a professional strong man's attempt to throw a bull. He failed, but gave as an excuse that the bull was of the short-horned variety.

In his "Æneid," Virgil describes very graphically a boxing match between Dares and Eutellus. Those heroes fought with the cestus, which was a kind of gauntlet consisting of heavy leathern thongs loaded with lead or iron. These were wound round the hands and forearms of the ancient pugilists to give weight to their blows. Eutellus, though an old man, won the fight, thanks to his great strength. Dares, spitting blood and teeth, was carried off the field. A palm, the symbol of victory, and a bull were presented to Eutellus by the referee of the contest. Then we are told that Eutellus led the bull into the middle of the arena, and dashed his hand, heavy with the cestus, between the animal's horns, delivering the blow with such force that it broke the frontal bone and killed the poor beast instantly.

Men have successfully pitted their strength against horses. One "strong man" boasted his ability to hold any team of horses in the world, while standing. He performed the feat thus: he would stand between the two horses, and make each pull in opposite directions; in this way each horse aided him in holding the other. He tried all kinds of horses; but, I believe, he always made good his boast. The plough horses, he said, were the hardest for him to manage.

Another "strong man," whom I knew, had a ladder fixed flat on the ground; then he would lie on this, face downward,

with his arms extended straight above his head, and his hands grasping the upper round; his feet were braced firmly against one of the lower rounds. Heavy straps with hooks on the ends were then placed over his shoulders. When so fixed, a team of horses attached to the hooks could not pull him off the ladder. Of course, when the strain came, he would hold his arms and legs perfectly stiff and rigid, so as to throw the strain as much as possible on the bones. I afterwards heard that this athlete grew too ambitious and came to grief. He boasted that he could hold the ladder against a yoke of oxen, and one day he made the trial; but the oxen's great weight was too much for him to bear; they pulled him off the ladder, and in some way injured permanently the bicep muscles of his arms.

Some years ago a "strong man" travelling through the country created quite a sensation by breaking rocks with his fist. But, strictly speaking, he did not break them with his fist. He would hold a stone a little above another stone; then he would hit the upper one hard with his right fist, which was bandaged, and break it really by knocking it against the lower one.

When one compares the strength of man with the strength of animals, it is important to remember that bulk is by no means a criterion of strength. Quality of muscle is much more essential than quantity; and men with a large amount of nervous energy can often perform feats of strength that are far beyond the powers of larger and apparently stronger men; because the former are able to stimulate their muscles much more powerfully. The muscles of man are stronger, in proportion to their size, than the muscles of animals; chiefly because man has greater nerve force, and his superior intelligence enables him to develop his nervous and muscular energy to the highest possible degree.

DURING the hearing of a case concerning some frozen chickens, heard at the Marylebone County Court, Mr. Terrett, Chief Inspector of Meat for the City of London, said that "though they could not be described as unfit for human food they were about as nutritious as sawdust." The plaintiffs in the action produced one of the chickens. It was placed on a plate with another which had been stored for the same period in a different cold storage store. The former was covered with green spots, and the flesh had fallen in and shrivelled up; the latter looked as fresh as a bird just killed.

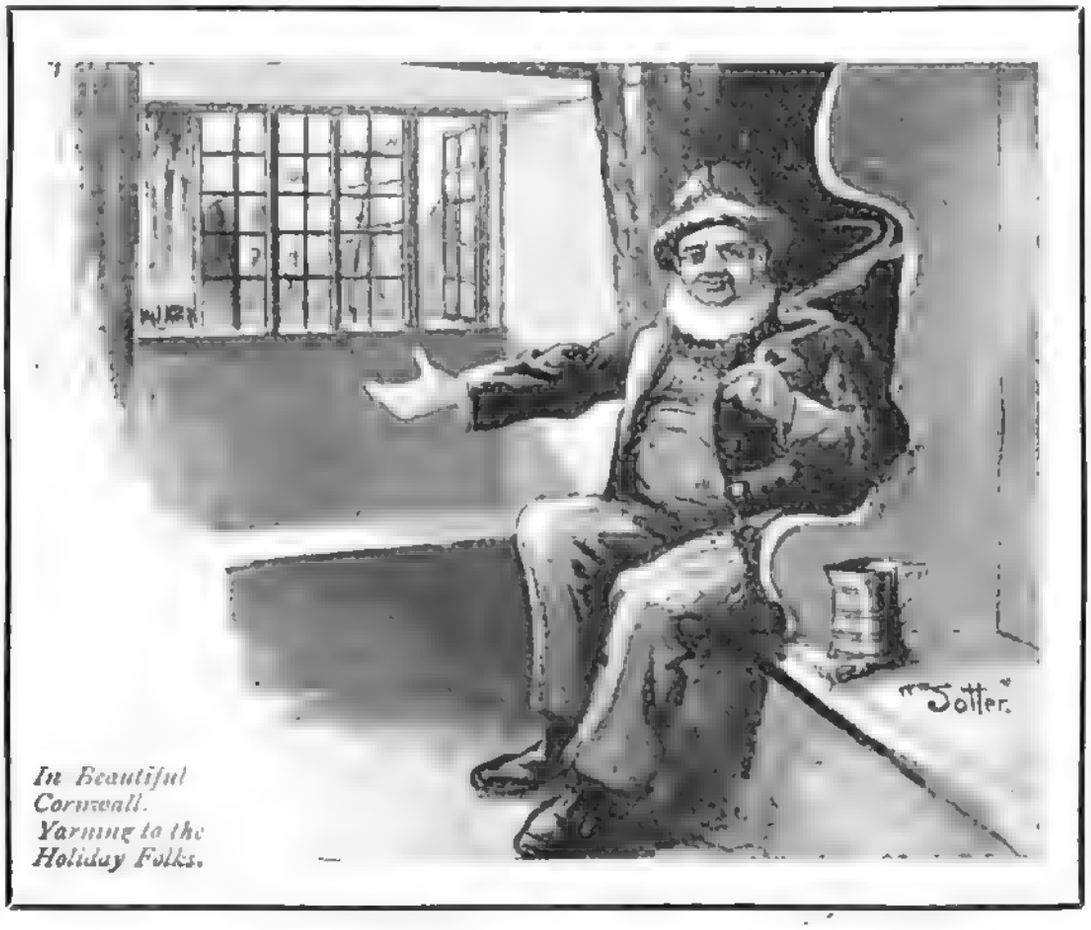
Mr. Terrett, cross-examined, said that mould or fungoid growth, which was to be found on the fowl, could be caused by moisture, which, in its turn, could be caused by a sudden change in the temperature. The deterioration would commence by a small, white spot, and then what was known in the trade as "whiskers" would grow. This growth would gradually become black, ptomaines would form, and from them fungus.

His Honour said that if the defendants had kept their premises at an improper temperature, as alleged, it would mean that they were totally ignorant of their own business. Judgment for defendants on the claim.

SWEATING is evidently rampant at Woolwich, but *The Pioneer*, a local journal, has evidently brought about some reforms by its exposures. It will be remembered that, as is usual in the sweating profession, the workers were charged, and overcharged, for cotton and needles. At the beginning of this month a notice was posted in the factory stating that in future the price of cotton would be 1¾d. per 1000 yards, instead of 2d., as previously charged. Again, in one of their articles, *The Pioneer* drew attention to the fact that another method adopted of grinding the faces of the workers was to deduct ½d. in every 1s. earned on a certain operation for cost of power. The operation in question was that of button-holing, which is paid at the rate of 2½d. per dozen shirts, each shirt having eight button-holes, making in all ninety-six button holes for 2½d. In future it appears these poor women will not be charged for the power. More power to your respective elbows, oh Pioneers!

SEA BATHING.

SALT-WATER bathing is a subject of importance to thousands, and its treatment by Dr. Philip Marvel is worthy of serious attention. Sea water, being composed of minerals such as chloride of sodium, magnesium, bromine, and iodine, he claims, is truly a mineral water, and an ocean bath, therefore, may be properly classified as a mineral bath. The author shows that the first effect of an ocean bath is invigorating, and the second, due to long exposure, depressing. He says that in the latter case he has noticed the temperature lowered from one to two degrees, and the pulse rate lessened from fifteen to twenty beats. In estimating the benefit to be derived from ocean bathing, many influences must be taken into account, such as, for instance, those relative to the sea—namely, the forcible activity or movement of the water, the physical condition of the sand, the distance and convenience of the dressing-rooms, etc.—and those relating to the individual—namely, the resisting power of the body, the time of the bath, length of time of exposure, the temperature, and the presence or absence of debility.



In Beautiful Cornwall. Yarning to the Holiday Folks.

WHEN A PERFECTLY HEALTHY INDIVIDUAL plunges into sea water at a temperature of 65 to 70 degrees, the stimulus to the peripheral sensory nervous system is such that it quickly contracts the adjacent capillaries and sends the blood speeding to the larger vessels and internal organs. The systematic vigour and reserve forces return it again to the surface of the body accompanied by the resiliency and in-

vigoration which emphasise the pleasurable sensations so gratifying to the bather. If, after dressing from such a bath, a genial glow suffuses itself over the sensitive surface of the body, and is succeeded by a pleasing warmth internally, accompanied by a refreshed and invigorating feeling, it is evidence and proof of the salutary influences; but if, instead, there follow a chilliness, languor, headache, irresistible depression and disposition to drowsiness, or any of these, it should be reckoned as important evidence that the bath has not contributed in any material way to the advantage or improvement of the person's health, and that, if persisted in under similar or like conditions, the result will in time prove injurious.

DR. MARVEL CONTENDS

that sea or ocean bathing as practised at Atlantic seacoast resorts is responsible for greater harm than good. "Few people," says he, "seem to attach much importance to the danger of either the prolonged exposure in water or to the prolonged exposure in their wet garments in the cool atmosphere on the wet sand. . . . Many of us have stood on the strand and observed not a few, but many, young, middle aged, and old alike, returning from the surf, or from a prolonged exposure in their wet clothing on the sand, to their dressing-rooms, slightly, and even markedly, cyanosed, with pale and shrivelled cutaneous surfaces, capillaries contracted, cutaneous functions temporarily paralysed, internal organs and deeper vascular system greatly engorged, and in some instances seriously disturbed, shivering and chattering as they pass, giving little thought to the threatening dangers incidental to the impaired forces and debility occasioned by the exposure.

"Each physician should counsel those over whom he has advisory charge, of the dangers incident to a prolonged exposure in the ocean, or on the sand in wet clothing, and also to the too frequent daily indulgence of either. It is his duty to impress on them the advantages of a short exposure to immersion, say, ten, fifteen, or twenty minutes, and never exceeding thirty minutes; the necessity of prompt and positive re-action after the bath; the maintaining of a good physical condition, and giving to them, according to their particular need, such specific instruction as will best avert harmful or serious disturbances."

TO WEAN CHILDREN FROM THE STREET.

THE National League for Physical Education and Improvement is circularising the various education authorities in England and Wales in the hope of inducing the general adoption of the London scheme under which the use of playgrounds is granted to accredited and responsible outside bodies for the organised play of young people. The London conditions are that no evening classes are in progress at the time of occupation, that adequate supervision be provided, and that the Council be indemnified against damage, but subject to these things the playgrounds are available on application to the "letting clerk" of the education authority. The suggestion is that by the organisation of games in an open playground under efficient leadership much may be done to keep boys and girls from the age of leaving school up to the age of eighteen from drifting about the streets to their own physical and moral detriment. Among the signatories to the circular are Lord Alverstone, the Bishop of Ripon, Sir W. R. Anson, Sir Lauder Brunton, Major-Genera Frederick Maurice, Archdeacon Sinclair, Canon Barker, and Mr. F. F. Belsey, the chairman of the Sunday School Union.

THE DEADLY TEA-POT.

IN a poster dealing with the causes of physical deterioration, issued recently by the Blackburn Health Committee, tea drinkers are warned of the dangers incurred in the excessive use of strongly brewed tea. To reduce these dangers to a minimum the tea should not be made strong, and should be drunk within two minutes. The smoking of cigarettes by youths, and the inhalation of smoke at any age, are also denounced as causes of physical deterioration.

SPICES AND DIGESTION.

ALTHOUGH the use of spices for the purposes of heightening the flavour of food is almost universal, it is generally recognised that their influence on digestion is detrimental. Some experiments recently carried out tend to prove that while spices stimulate the motor functions of the stomach, they progressively impair the secretory functions, and in the long run inhibit the production of hydrochloric acid. On the whole, therefore, the ingestion of spices hinders rather than accelerates digestion, though an exception may be made in respect of persons in whom slowness of digestion is due to a deficiency of muscular activity on the part of the stomach, and also possibly of the victims of hyperacidity.

BODILY DESIGN.

THE mind is the normal executive and supervisor of the physical organism. The body is technically an instrument, and as such it should be wielded and made to yield delightful ministry. Its true office is that of a willing servant and not of a capricious and occasionally tryannous master. Its primary upbuilding with favouring outward conditions seems to be provided for without specific thought so that it apparently rears itself. But in reality there is a plan and a governor. Back in the 16th century, Spenser voiced the vital inner law :—

"For the soule the bodie forme doth take ;
For soule is forme, and doth the bodie make."

As is well known, physiological processes may be divided into two general classes. One embraces those activities which are conscious or under the direct guidance of the will. These include eating, drinking, walking, talking, hearing, and the common exercises of the sensory organism. But far more complex, delicate and varied is the other class which controls the unconscious, or more correctly, the subconscious processes of the system. Among them are digestion, assimilation, the circulatory and secretory functions, nervous sensation with numerous other subtle relations. In some directions the two classes are partially blended. The whole forms a wonderful interdependent plant of which the product is physical man, and this human unit is undoubtedly the Divine masterpiece.

If the conscious mind becomes unconscious through sleep, or even an anæsthetic, the delicate processes continue. What intelligent force directs them ? The dominant and orderly wisdom of mind or soul, but all goes on below the surface of consciousness. With amazing adjustment, power of selection and vital energy, there is perfect rhythm and co-operation. We include it all under the simple term, life, but how much it means ! The sub-conscious forces and intelligence act automatically upon the material body. In view of this basic principle of psychical physiology, the practical question arises, Can these hidden causative energies be corrected, strengthened, or educated, and if so, to what extent ? In proportion as such development is practicable it must include a great realm of therapeutic potential which conventional systems have mostly overlooked.

The sub-conscious mentality may be defined as the full accumulation of past vital thought, opinion and emotion, which is unappreciated and most of the time out of sight. Whatever its substance, quality, normality or morbidity, it has come through former conscious mental states. Being causative and back of bodily expression, its character is built into the seen counterpart. "As a man thinketh in his heart, so is he." Not the conscious thought of the moment makes him what he is, but the sum total is what is outwardly indexed. Like geological strata in the soil, there is a recorded history. Heredity and environment are present, but in much greater degree each one has made himself. Both in mind and body, one is his own logical product. Every specific past thought has been like a drop in a chemical compound. General ignorance of this law results in serious maladjustment and inharmony. The subconscious realm in each individual usually has but very scanty self-exploration, for under ordinary conditions, the conscious mind always "has the floor."

The more pure and unchangeable spiritual selfhood or super-consciousness—so rarely found developed—should not be confounded with the lower accumulation which is under review, though both are related. This changeable and growing domain is possessed by all to the measure of past mental activity. It is the compound of former wisdom and foolishness, good impressions and the reverse, sentiment and opinion, courage and fear, of which an endless conglomerate procession has passed through the conscious mind and is now on deposit. It is all on hand

and not a thought has been lost, though memory, under ordinary conditions, can grasp but an infinitesimal fragment. On rare occasions, however—perhaps most often observed in a drowning experience—the curtain is thrust back, and the conscious mind gains a quick panoramic view of the impressions of a lifetime. This phenomenon though unusual is very significant. We meet a friend whom we have not seen for a score of years. Recognition can be based only upon comparison with our own mental picture of him which has remained intact in the midst of an endless variety during the whole time. Nothing has been obliterated.

The sub-conscious mind, from its very nature and make-up, can be modified but gradually, and that through a changed stream of thought from the conscious realm. It is like a great cistern with some degree of turbidity and foulness in the contents. Pour in a continuous rill of pure sparkling water and the whole will be gradually purified. There is not a thought but what has its due influence. The "every idle word" for which men shall be judged when rightly interpreted is a startling psychological truth. The time will come when not only the deeds, but the thoughts "of the heart" will be made manifest. The judgment will be within. It is now, and in the mind of man, that the sheep are passing to the right hand and the goats to the left. Each person contains and retains all that he has mentally assimilated with growing emphasis. In view of the coming harvest, what an immense responsibility is wrapped up in simple thinking! If unconsciously we are day by day weaving the coming quality and even destiny of mind—and incidentally of body on its present plane of activity—through the creative power of thought, how important that the fact be known and that the mental pictures be normal and ideal!

The ego lives with its thought delineations, and with those which are habitual great intimacy is developed. The nearest friends are distant when compared with these inner guests. It is common to take in the stream of impressions as they come, good, bad, and indifferent, without any careful or conscious selection. One great class comes from physical sensation and another from the outside world. The first can be winnowed and improved, and the second changed through selection. Thoughts unbidden, and far from ideal may come, but they need not be invited in and made permanent guests. One strongly tends to become like that with which he lives. To dwell with pessimism, sensuality, depression, morbidity, and inharmony is to sow their seed, and in increasing measure to put them in possession. This is true of the body as well as the mind, because the former is the expression or outpicturing of the stored-up consciousness. The automatic and growing responsiveness of the material organism to mental states and pictures is so subtle, gradual and near by, that, conventionally, we look right through and beyond it. The present condition is the exact natural and logical outcome of the past.

The principles already outlined clearly show the wonderful utility of high ideals, aspiration and correct auto-suggestion. The conscious mind, through such exercises, may be constantly pouring a stream of beautiful and constructive mental pabulum into the great sub-conscious domain. Sickly, evil, angry or fearful thinking tends to manifestation in a sickly body. Ordinarily we do not trace the connection because the process is so gradual. But it is as sure as it is slow. The mind can be stuffed, starved or poisoned as truly as the body. Much of the sensationalism of the day, of which we have a deluge, is made up of noxious mental "germs." Every picture which is hung in the corridors of the mind takes room and has its determinate influence. The ego is constantly inspecting its accumulated and amazingly complex handiwork. Ideal thinking should rank as the finest of fine arts. Not only the physiognomy but the whole organism tends to become "a living epistle" of what is within. All growth is from the centre outward. Thoughts of cheer, love, harmony, goodwill, purity and beauty in proportion as they are held, crowd out their opposites. Still above all these is a constant felt relationship and intimacy with omnipresent Divinity—the universal Spirit. One should cultivate aspiration.

Affirmative ideals to gain the most force should be inwardly made in the first person singular and present tense. They are not a dim hope of the future, but are real now, only waiting for manifestation. To this end they need constant suggestive reiteration. One's real world is not the surrounding things, but his thought of them. The external realm, including the bodily organism, is only raw material to be made up to order—his order.

Too Much Salt.

MANY people reach for the salt cellar and sprinkle salt into almost everything that comes on to the table. Its a habit; they don't wait to taste anything to see if it isn't salty enough. There is no need of using so much salt, and there is very good expert authority to show that the salt habit is a really dangerous habit. Among other things, it is probable, too, that too much salt brings on Bright's disease and other kidney troubles. And this is the reason why:

We need only twenty to thirty grains of salt per day, according to Professor Bunge, one of the most eminent physiologic chemists in the world, of the Swiss University at Basle. This amount we absorb by eating our food in its natural or cooked state, and it is quite evident that the systems of animals are built to run on this proportion of salt. But the white man and the other races which have learned the habit from him, as well as his cattle, have accustomed themselves to the artificial addition of this substance which works so powerfully on the elements of the body.

Salt, as is well known, makes the heart beat and increases various activities of the organs and acts as an antiseptic.

For these reasons, most people think the more salt they eat the better their heart and organs will work. Strychnine, alcohol, and, in fact, most poisons make the heart beat more strongly and hurry things up in the body, but all the activity is caused by the effort to rid the system of the offensive matter.

When there is too much salt in the blood the excess acts as a poison and there is a concerted effort on the part of all organs to throw it out. The heart sends the blood at a faster rate, and the skin and kidneys bend all their efforts to eject it. In hot weather the skin is able to restore the balance pretty well and to relieve the overworked kidneys.

In cold weather the pores can only exude slowly, and the kidneys are therefore in a perpetual state of overwork. Overwork continued long enough has but one outcome—breakdown and degeneration of the organs. With the kidneys this takes the form usually of the dread Bright's disease, which is so hard to treat and so mysteriously on the increase.

One of the well known symptoms of advanced Bright's disease is dropsy Water accumulates in various parts of the tissues of the body, sometimes to so great an extent that the patient has to be tapped to have it withdrawn.

Recent investigations have shown Bright's disease patients to be "great salt eaters." The connection is easy to see. When the kidneys get so weakened that they are unable, even at great strain, to get rid of the salt, it accumulates in the blood. Soon the excess of salt enters the tissues and settles in the veins and arteries.

Salt has a strong affinity for water and will attract it anywhere. This is the reason salt is always damp when exposed to the air. A salt solution will pull fresh water through an otherwise impervious membrane. Oysters taken from the salt water and allowed to stand in fresh water for a few hours absorb the water because they are full of the salt of the sea, and become bigger and whiter. Oystermen take advantage of this well known fact, and it is a part of the oysterman's work to give the shellfish "a drink," as it is called, before he takes them to market.

When the human tissues become saturated with salt this substance attracts and holds water in increasing quantities until the symptoms of dropsy occur.

The idea that cattle need salt is a delusion. They do not need it naturally any more than they need alcohol or morphine, but they can and have been taught to need it. Some of the finest prize cattle in England are brought up without a taste of salt.

The North American Indian in his former healthy state never used salt. The white man introduced him to salt and whisky. On the Northern plains of Siberia people never eat salt, and scientists have been busy for decades trying to account for their unexplained hardihood.

England, though probably guiltless of any humanitarian motive, has perhaps done India a great kindness in taxing, as it has so heavily, salt. Aside from Bright's disease and other ailments of the excretory organs, arterio-sclerosis, or hardening of the blood vessels, is now thought to be caused directly by excessive salt eating.

This disease, usually called apoplexy, but also distinguished by many other names, according to the organ in which the stiffened and inelastic blood vessels first snap, is the increasing dread of middle and old age.

Alcoholic drinks, particularly beer, are given the blame for much of this disease. Yet every bar-room has its free lunch of heavily salted pretzels or other saline morsels placed handy with a view to stimulating thirst. Many drinkers have the habit of shaking salt into their beer.

Hearty meat eaters are very subject to arterio-sclerosis, but these people are almost invariably heavy salt consumers. The tendency of these people as they grow old is to become fat, gouty, red faced and dropsical. Bright's disease preys upon this class.

A milk diet is the best known remedy for arterio-sclerosis and all its train of allied ills. That it is, though, is owing in great part to the absence of salt in milk. If salt is needed in any large quantity by animals it would certainly be found in milk.

Speaking of milk in connection with kidney diseases, it is interesting to point out what an excellent article of diet cheese is. John D. Rockefeller the other day remarked: "One of the greatest regrets of my life is that I did not discover cheese earlier." And Mr. Rockefeller is quite right.

There is no article of diet which contains so much concentrated nourishment and yet is so easily digested. Beans, for instance, I highly regard because the chemist proves that they are chock full of nutriment. Yet the truth is that the human stomach in digesting a plate of beans finds the task so difficult that it uses up almost as much energy as it derives. To many people, especially those not leading active outdoor lives, beans are about as nutritious as so many marbles.

"But they stay by you," some one will object, meaning that you won't feel hungry for some time after a meal of beans. Of course they do! anything that doesn't digest stays by you unless you are made violently ill by it. In the logging camps, where the cooks are at their wits' ends to appease what are perhaps the most ravenous appetites in the world, beans are served every day in the week, for they best resist the onslaughts of those iron stomachs.

Some "Home Truths."

By Chas. E. Page, M.D.

"THAT tired feeling," for the cure of which the "spring medicines" are advertised, and which comes most frequently to persons who do nothing but rest, can be walked off very readily, literally squeezed out of the muscular system by exercise, just as a sponge is made fresh and clean by squeezing in warm soapsuds. In both cases the tissues are clogged with foul matters which can be washed away with proper manipulation in an appropriate fluid, this in the one case being blood, and in the other water. Well trained persons have a natural stimulus to exercise, their muscles fairly coax for it, and it is a sensual pleasure to walk, run, jump, wrestle, or what not; these have a safeguard for health of which the sedentary person knows nothing. Verily, in this matter, "virtue is its own reward," such persons secure a treble reward for well doing; they can indulge more freely at the table and enjoy their food more than is possible for any loafing sensualist; they suffer no inconvenience from sick headaches, bilious attacks, or other effects of indigestion; they have no doctors' bills to pay.

Every horseman understands the value, if not the physiology, of "scoring" for a

race. This preliminary muscle squeezing is essential to the highest speed and endurance in a close contest. In the sense above explained, the animals, after prolonged inaction are "rested" by being given a mile or two of moderate speeding and getting warmed up for the race. And even in hot weather, vigorous exercise in proper amount and under right condition promotes the cool comfort of all animal kind, including man, by the elimination of waste matters that produce extraordinary heat if retained in the tissues. To overeat and lie around trying to keep cool by fanning, in hot weather, means failure; it is promotive of disease and a bid for sickness.

"Save All Steps Possible," is the heading of an item in an evening paper. "In all housework, and in other work as well, it is important that the movements follow each other without any loss of time, that the distance to move be as short as possible—in other words, the work must be close together. Learn to save all the steps possible, and to move the hands as short a distance as possible." In other words, instead of trying to get a fair degree of physical training out of your daily occupation make the least possible exertion, that the muscular system may become dwarfed, or grow flabby and fat, and the body as a whole predisposed to diseases of all sorts.

Take a look at a span of carriage horses and make a bit of study of condition: bodies like a gun barrel, coats like velvet, eyes shining with health, nostrils clean as a maiden's lips; note the strength and suppleness of these healthy creatures, and the evident pleasure, even delight, manifest in the way they spring to their work. Then for a complete contrast, look at the occupants of the vehicle they are drawing; who, too often, are fat, soft, and ill conditioned; they have saved their steps, but not their stomachs; they are chronically tired from over resting! The noble animals of which they are so fond, they feed on plain bread and water, the solid portion of this diet being measured with care, and they are given plenty of exercise, lest they become diseased like their owners from a violation of the laws of life. How stupidly absurd all this seems when we look at it rationally, and what a price they pay for their folly!

And what of those who do not ride in their own carriages: most ladies on social or shopping errands will stand on the street corner till their backs ache, waiting for an electric car, into which they climb with difficulty and sit till their backs ache again and their legs become partially paralysed, and on arriving down town they toddle to the sidewalk and into the shops, where they practice the step-saving plan in every possible way, taking the elevator for the upper floors, as if totally unaware of the fact that stair climbing is the next best thing to hill climbing for making them strong, inside and out. What wonder that so many have weaknesses, as the term goes, and that we hear so much about "female diseases," and that so many women are subject to no end of humiliating disorders, mutilations, and all manner of nuisances! "Female diseases," indeed! Where else in the animal kingdom do we hear of this phrase, which is really a reproach to our civilisation? The Maud S's and Nancy Hank's do not save their steps, live on made dishes, overeat, wear stays, and take the elevator; they get uphill by climbing, and with the added advantage of pulling a load up too. Hence their exemption from "weaknesses!" Hence, also, the exemption of circus and ballet girls. When, to their splendid all-round physical training they add rational living habits, these performers reach old age in sound health.

As to the question of how much exercise is required daily, no definite prescription can be given that will fit every case. Generally speaking, perhaps two or three half-hour turns of all-round exercise, each to the point of starting the perspiration, would suffice, provided the diet be held down correspondingly. A golf player, tramping and slashing many miles across country, would require much more food than would a sedentary man who should simply train for an hour or so a day.

The best forms of exercise are those which tend to strengthen and make supple the entire body. Running, dancing, hopping, skipping, bending, turning, romping, wrestling, playing ball, tossing bean bags, swimming, rowing, tumbling on the lawn

—all these contortions, like children at play, are in the highest degree promotive of condition. Beyond a doubt, it is vastly better to mix a lot of fun with the exercise when possible—to make play of it rather than dull work. Sedentary men and women should be cunning in taking advantage of such opportunities as present themselves for exercise. To lie in bed till the last minute and then rush into their clothes and sit down to breakfast, instead of rising early enough to have an air bath and a good lot of all-round hustling, is extremely unwise; often enough the air bath would do them more good than the breakfast, the former being sadly needed, and the latter not at all. Here are a few "don'ts" for general use.

Don't sit when you can stand; don't stand still when you can walk; don't walk when you can run; don't ride when you can go afoot; don't go around a hill, but climb it; and a few flights of stairs to mount is the next best thing. Don't step slowly, even crossing a room—make everything count for training; don't overdo; rest when tired, preferably lying down.

A COLONIAL READER,
Showing Magnificent Biceps and Triceps.

"You can't keep your cake, and eat it too," is an old and very significant maxim; and you can't keep a good stomach and constantly bulldoze it. Nature supplies nothing that is needless; even the appendix has its functions other than merely to fatten the surgeons who needlessly amputate it; nor will she submit indefinitely to abuse. Disobedience to the laws of health are certain, in time, to be avenged—that is, they bring their own punishment; cause preceding effect, in spite of some experiences which would seem to indicate the contrary in individual cases. For example: an old chap well known to me smoked to excess, drank like a fish, chewed tobacco constantly, ate like a cormorant, and otherwise abused himself in the most approved fashion and died at the age of 102. Another man lived for a number of years, in health, with a bullet imbedded in his brain, dying, finally, from an accident; still another lived with a bullet imbedded in the muscle of his heart for upwards of ten years, and died in a hospital from an acute disease, the bullet being dissected out at the autopsy. The scar on the left breast had attracted the attention of the doctors, and the patient stated that it was from a pistol shot ten years previously, and that the bullet had not been extracted. What do these extraordinary cases prove, but that some men are too tough to kill? Men and women are all the time sickening and dying, or living invalid lives, from a tithe of the self-abuse that altogether failed to kill the centenarian, who, I will say in all seriousness, might have reached the age of 120 had he run the machine even decently, as this age has been reached by others who lived temperate lives. A bullet in the brain is usually instantly fatal, so is a puncture of the heart, and in none of these cases can it be said that the exceptions prove the rule.

LIFE SAVING FAMILY.

A FORMER resident of Stowmarket, Mr. Sidney Felgate, has pluckily rescued from drowning a lady and her infants at Toronto. A few years ago Mr. Felgate's brother Percy rescued two children from a burning house at Aldershot, and their married sister, Mrs. Napier Prentice, recently plunged into the sea at Felixstowe, while fully dressed, and rescued a young lady from drowning.

SWIMMING FOR HEALTH CULTURE.

WHEN the ancient Romans wished to express extreme contempt for a man's ignorance, they exclaimed, "He can neither swim nor write!" In Roman estimation, swimming came first, because, forsooth, of what avail is writing to a drowning man? They esteemed swimming as the best exercise to develop strength, courage, and beauty of body, and considered it indispensable to a good education. They believed in the symmetrical development of the body, and swimming is the very "cream" of exercises for bringing about this desired end. As a means to the prevention and cure of disease it has not received nearly its just share of attention. There is hardly a chronic ailment which it would not benefit. First and foremost among its inestimable advantages is that it is an absolutely symmetrical exercise; that is, the entire muscular system is employed in its use, in the same manner with both sides of the body. The limbs, the chest, the abdomen, the back; in short, the whole body is thoroughly exercised in correct swimming. It is at the same time the safest of exercises, in that there is no danger of straining any one muscle from over-use, of developing one side or one limb more than another, or of injuring internal organs.

Let us, says A. L. Singer, in *Good Health*, examine the movements required in swimming. First, the position of the swimmer in the water: He should lie flat on his chest and stomach, the legs perfectly straightened, heels touching, the arms extended full length before him, palms touching, fingers and thumbs close, so that the hands will form good oars by which to push back the water and thus propel the swimmer.

IT REQUIRES VERY LITTLE MOTION

of the right kind merely to keep on the surface of the water, and it ought to be the duty of every parent or guardian of a child to instruct the little one as soon as possible in the simple art of sustaining itself in the water. Untold accidents would thereby be prevented, and the now dreaded liquid would no longer be regarded so much in the light of an enemy to life.

God intended us to swim; in proof of which assertion I would cite the numerous instances in which man in primitive conditions sustains himself in the water without any difficulty the first time he is thrown into it by accident or by the design of an enterprising parent. The South Sea Islanders are all magnificent natural swimmers, and as much at their ease in water as on land. Thus we see that civilised man has to a great degree lost the inestimable benefits of the water so abundantly provided by the Creator. Swimming, with us, instead of being the natural exercise for practical, everyday use, has degenerated, if I may so express it, into an art or science which most of us acquire only after long practice. Let not this statement, however, discourage anyone from attempting to learn swimming, as one can enjoy its immense benefits long before he becomes an expert.

To revert to the movements necessary in swimming: After assuming the correct position, let the beginner practise first the arm movements. The chest should be well lifted, and should never be quite deflated of air; I cannot too strongly emphasise the necessity of deep, full, regular breathing with every motion in swimming.

IF THE CHEST IS WELL LIFTED

and the abdomen drawn in, the body forms a bow, which is canoe-like in its buoyancy. Now separate the arms by turning the palms away from each other, and spreading out the arms until they form a straight line with the shoulders. Keep the fingers firmly against each other all the time. A deep inspiration should accompany this movement. Now bend the elbows until the hands meet under the chin, the fingers pointing forward, having turned the palms until they meet again;

then extend the arms forward and the original position is reached.

These movements are made in three counts. Rest position is the starting point, and is always reached on count three. On count one, the arms are spread as first described; count two, hands under the chin, palms touching; on count three, the arms slant forward with energy. It is very important that at this last count there should be a pause for rest. If the swimmer breathes well, he can lie on the water absolutely motionless for a short time, and take a rest between strokes. This rest is the secret of the easy, graceful, enduring swimmer. It is a fact that when a thing is done easily and gracefully it is done right. This is a natural law, and applies to any physical exercise. A good swimmer is always a graceful swimmer.

Mind versus Matter.

The leg motions are especially valuable for those who have inactive digestive organs. They induce a thorough, yet not violent, exercising of the abdomen, and undoubtedly assist in the restoration of prolapsed viscera to a proper position.

PRACTISE THIS MOTION,

at first bracing the body on a board or against any firm place by leaning on it with the hands. Lie perfectly flat, chest well lifted, breathing deeply with the movements of the limbs. First movement, flex the knees by drawing them up under the abdomen, not simply bending the knees and throwing the feet up, a mistake made by all beginners and poor swimmers. Second movement, kick the feet out toward each side with force, straightening out the limbs and bringing the heels together. At this point the body is perfectly straight, hands touching, heels touching. Upon the force and decision of the shooting forward of the arms from under the chin, and the kicking back of the legs from under the abdomen, depends the length and effectiveness of the stroke. A good swimmer should make a stroke as long as his own body. The best way to teach a person how to swim is to give him at first what may be called a "dry" lesson; that is, have the movements performed out of the water first, then suspend the subject by a rope fastened to a belt around the waist, and let him practise the movements separately in the water, being very particular about the breathing and the rest at count three. In combining the leg and arm movements, the arms start at one, the leg motions coming in with counts two and three.

THE REASON WHY.

MR. CHAMBERLAIN is notoriously a man who never takes physical exercise. The right hon. gentleman has recently been suffering from a severe attack of gout.

The True Foundation of Permanent Health.

By J. H. Kellog, M.D.

PURITY of the blood is the one essential of permanent health. It is by means of the blood that the body is created, renewed and maintained. If the blood is in good condition everything else in the entire body will be right.

The quality of the blood is indicated by one's condition. Pimples on the face, a coated tongue, rheumatism, diabetes, obesity, are evidences of impure blood. The white cells in the blood, of which there are seven thousand to every little drop, are tiny creatures which are not merely carried along by the current, but seem to move about by their own volition, seeking the germs which have gained entrance to the body. Guided by a marvellous intelligence, they collect in great numbers where there are germs to be destroyed.

In order that the blood should be active in defending the body and destroying the germs, it is of the first importance that it should be clean and pure. When the blood is healthy, the cells are vigorous and active. When the blood loses its vitality, the cells immediately begin to suffer, and we see evidences of their loss of power to defend. When the skin loses its power to defend itself, we have pimples, eczema, psoriasis, and a variety of other diseases of the skin and mucous membrane. Nasal catarrh, tonsillitis, sores in the mouth and decay of the teeth are caused by the mucous membrane losing the power to destroy germs. Further down in the body, we have catarrh of the stomach and catarrh of the liver.

The liver is one of the essential organs for destroying germs. It gathers them out of the blood, destroys them, and sends them out of the body in the bile. When the liver loses its power to destroy germs, they escape and accumulate in the gall bladder, forming little masses which become the nuclei of gall stones. The gall bladder becomes irritated and inflamed, the mucous membrane secretes an excess of cholerestin, a resinous substance which is precipitated and forms gall stones, which irritate the gall bladder and maintain the disease. When the blood is what it ought to be, the germs will be destroyed, and gall stones cannot form.

The whole body goes into decay because of the loss of power to defend itself. The real cure for all these diseases consists in increasing the defensive power of the body. No chronic invalid can be cured of his malady without improving his vital status. He must be changed bodily, re-constructed, through the complete renewal of his blood.

It is the possibility of this re-construction that makes possible the recovery from any disease. When the condition of the blood is improved, then as it re-builds the body day after day, the old matter passes out, and the new matter passes in; it is re-organised on a better plan and stronger and more vital tissue is built up, and this more highly vitalised tissue rises above the morbid conditions which have previously existed.

The only way to get and maintain this strong vital resistance that the thoroughly healthy has, is to keep the blood constantly in condition. The human machine gets out of repairs just as any other machine that is not taken care of.

Exercise does for the body what the mountainside does for the stream of water. When the water runs down the mountainside, it is a babbling brook, exposing itself to the air and sunshine, and the water is crystal pure. In the valley or on the level plain, the water may form stagnant pools, and get covered by all kinds of filthy creeping things. Some people let themselves get into the condition of that stagnant pool and then wonder why the frogs croak in their brains.

When a person gets into the condition where the body is like a stagnant pool, a radical change must be made in his life. He must begin by getting vitalised, new blood into all his cells and tissues.

ARE WE TOO LUXURIOUS?

We are getting altogether too luxurious as a race, says Lord Methuen. Anyone, he said, who had been soldiering, or roughing it abroad, must notice on returning to England how strong the desire for luxury and refinement had become. It was necessary to counteract these evil influences, and to let it be known that there were finer and better things to be done than riding about in motor cars, or playing cricket and golf

Sunlight and Health.

SO dependent is health on sunlight that it is difficult to think of one without thinking of the other.

All nature responds promptly to the influence of the sun, which is seen most conspicuously in all vegetation.

The sun is the source of all life. Without the sun the most common plant will become pale and sickly, a season of protracted cloudy weather causes vegetation to grow pale, but a short period of sunshine will restore it to its natural colour again.

Plants growing in darkness, as potatoes in cellars, are pale, and manifest their affinity for light by longingly stretching toward the little ray of light that gains admittance through a small aperture.

By analysis such a plant grown in a dark place is found to be deficient in carbon. This natural affinity for the sun is seen everywhere. The sunflower, like the object attracted by the magnet, always looks toward the sun.

The sun holds no less importance for the animal kingdom than it does for the vegetable kingdom. But strange as it may seem, among all creation, man manifests the greatest reluctance to the sun and its healing and life-giving properties.

We have seen the close relation between the sun and the vegetable world. The animal world is instinctively aware of the healing power of the sun. The sick canine partakes of a few blades of grass, stretches out in the sunshine and in a short time is as well as ever.

When we turn to man we see a disposition evinced to be afraid of the sun, and invariably by those who are least able to dispense with its healing rays. The delicate little human flower will encase her hands in gloves, her face in a veil, and with a parasol over her head she is ready for the promenade.

Some time ago the writer was in a home and, on remarking that one of the children had a cold, elicited the retort: "Yes, we all have a cold," which was very evident from the amount of coughing of a family of eight, and it was the most natural thing that they should all have a cold, and in strict accordance with the surroundings. The house was situated in a low place, and was surrounded with trees so that the sun could not penetrate; the doors and windows were all closed and the blinds down so closely that it was with difficulty one could find his way about in the gloom. The atmosphere in the house was cold, damp and mouldy, notwithstanding that it was in the midst of summer.

There is too great inclination to keep the sun out and the house dark. I could never understand why people had a desire to exclude the sun from their homes, except that they "love darkness better than light." To exclude the light for the sake of the furniture is to have a greater regard for carpets and curtains than one's health.

Every room in the house should be well ventilated and the sun allowed to enter. The sun has a purifying effect, and it is a crime against nature to keep it from the home; it has a tonic effect on the body, and many who are sick or ailing might find relief, if not a cure, by simply sitting a few minutes every day in the sun.

The Natural Way.

By Medicus.

THE natural method in diet involves, first, the kind of food. The natural food for man, provided he must take his food just as Nature gives it to him, is fruits and nuts.

At the present time we hear a good deal about the "raw food movement." Some are trying to subsist on raw wheat and other grains. Raw grains are not a fit diet for man unless they are taken in the unripe state. In the ripened state these substances are insoluble in the saliva, and not digestible. In the unripe state, however, when the corn is "in the milk," the carbohydrates are not yet in the form of starch; they are in the form of dextrin and sugar, and are easily assimilable by the human digestive organs. When grains are ripened in the sun, they become hard and dry for preservation. It is only when they are subjected to the process of germination that the starch is again digested and brought into a condition in which it can be assimilated in the human system without cookery.

Raw starch is a natural food for graminivorous animals, because these animals have digestive organs adapted to its digestion. Man's diet is naturally more refined—a diet which has been subjected to a process by which it is prepared for the digestive organs, in a way in which the grains and cereals are not prepared in their natural state.

Take the apple, for example. The green apple contains a large amount of starch, but by the process of ripening under the actinic or chemical rays of the sun, this starch is converted into dextrin, sugar, and acids. In ripe fruit there is very little but starch and wood. The process of cooking partially digests the starch in green apples, converting it into soluble starch, or amylodextrin. If the temperature is high enough, it may even be carried on to the form of dextrin.

The ripening of fruits does for them just what cooking does for the grains. Cooking can hardly be said to improve the digestibility of ripe fruit. The ripe apple is quite as digestible taken in the raw state. There is probably an advantage in the use of raw food, provided we confine ourselves to those foods which are natural, as ripe fruit and nuts. It is not at all certain that nuts are improved by cookery. They are improved by mashing, but almonds, pecans, filberts and pine nuts are not improved by cooking. The peanut, so called, is not a nut. It is really a legume, and should be classed with peas, beans and lentils. The peanut contains about 15 per cent. of raw starch, and it is not digestible unless it is properly cooked. Roasting the peanut is not a good way to prepare it. It may be more digestive when roasted than it is when raw, but it is much better cooked by steaming, by boiling, or by a very moderate temperature which will not heat it to such a degree as to produce fatty acids and other products of the decomposition of fats.

If we are going to eat the grains, we must cook them, and the more perfectly they are cooked, the better. The more thorough the cooking, the more nearly we bring them to the condition of fruits and nuts. That is the reason why grains should be dextrinised—because by this process the starch in the grain is carried one step further toward the state in which carbohydrates are found in fruits and nuts.

The average American begins to suffer from slow digestion before he is thirty-five years old. He takes after-dinner pills, and begins to use a great deal of condiments, which seem to relieve the heavy feeling of the stomach.

The mouth is a mill in which the food is to be ground as nearly as possible to a liquid state, so that when swallowed into the stomach, the digestive fluid, the gastric juice, will come in contact with every little particle of it, and act upon it quickly. Everything which cannot be brought to at least a semi-fluid state—a perfectly soft, finely divided state—in the mouth, should be discarded. The majority of people have gotten so into the habit of taking pills that they chew their food only sufficiently to get it to the consistency of pills, then take a sip of water to wash it down, just as they would an after-dinner pill or capsule.

This practice results in a great loss, not only in the fact that the stomach is compelled to retain the food for an excessive length of time, but because one loses the benefit of the taste which the food contains—the flavours, which are a sort of advertisement to the stomach of what is coming. When food is kept in the mouth the proper length of time, the taste-buds recognise the kind of food that is there, and send a notice to the brain and stomach of what kind of food is coming, and the stomach prepares the gastric juice that is required for that particular kind of food.

WHEN BATHING IS DANGEROUS.

M. WERTHEIMER, speaking before the Paris Academy of Science, developed some facts which will be well to bear in mind during the present bathing season. He showed that a sensation of cold on the skin acts on the circulation of the lower part of the trunk, that is to say, the veins, and also on the brain, in the same way as a mechanical or electrical stimulus of the sensitive nerves of the skin. This observation affords an explanation of the fact that a sudden immersion of the body in cold water after a meal, and while the process of digestion is going on, may be attended with danger. At this time the abdominal system is the seat of an intense physiological congestion, and the accumulation of blood in it is suddenly thrown back towards the nervous centres. The consequence may be a disorder resulting in death.—*Family Doctor.*

Halswell's Fine Running.

THE feature of the Celtic Football Club's athletic meeting at Celtic Park was the fine running of W. Halswell in the quarter-mile invitation handicap specially got up to give him a chance of beating record. He won the race from scratch, covering the distance in 49 sec., or ⅘sec. better than the previous Scottish record. A. Astley, 10 yds. start, was second, and N. Barker, the Australian, 7 yds. start, third.

THE Southern Counties Mile Swimming Championship has been decided at the Crystal Palace. There were twelve starters. A. G. Harvey, of the Ravensbourne S.C., repeated his success of a year ago, winning easily by sixty yards, in 28 min. 41⅘ sec.; H. M. Smith, Old Blues S.C., was second in 29 min. 25⅘ sec., beating S. W. Simmonds, City of Westminster S.C. by sixty yards; W. J. Hawes, City of Westminster S.C., was fourth.

Lively Youngsters.

THE oldest woman in Illinois, U.S.A., Mrs. Nancy Tighe, a native of co. Kerry, has died at the age of 107 years. She celebrated her 107th birthday last March, and in honour of the event danced several Irish jigs. Up to her 101st birthday she had never had a day's illness. Mrs. Donald White, of Sandbank (Argyllshire), has recently completed her 106th year. From her early days she has always lived an industrious life, and her principal diet has been porridge, milk, herrings, and potatoes.

Disease of Automibilia.

"ONE motor, two nervous systems," is said to be the formula that applies sooner or later to him who rides in an automobile; so that it is a good thing perhaps that the motor is so far a pastime of the rich, to whom places like Hamburg and Aix are open. It has been observed by more than a few lately, though, that the motor omnibus conductor is becoming infected by the nervous irritability that seems to belong to this sort of locomotion. The civility, varied at most by occasional sarcasm at the expense of a tiresome passenger, to which the rider in cabs is accustomed, is being replaced by the motor conductors with impatience, if with nothing worse. It will be a great pity if the good natured raillery of the omnibus vanishes from our streets. Humour, after all, is worth far more in life than the ability to get from one place to another in the quickest possible time.—*Exchange.*

To Instruct the Teachers.

CAPTAIN A. FOSTER, His Majesty's Inspector of Physical Instruction, has strongly recommended the Montrose School Board to consider the advisability of appointing an expert lady teacher who would not only give instruction in the Academy but would also be able to give the teachers of the Board schools advice and instruction, as the Department hoped that teachers would take a more active part in the physical training of their pupils. He further stated that an expert teacher would probably be obtainable for a salary of about £100. The Board have adopted the Inspector's recommendation.

Excess of Athletics.

THE dangers of athletics in excess, says *Science Siftings*, have been recognised by others besides Dr. Robert E. Coughlin, but he has put the results into concrete form. Of 128 deaths among athletes last year, 50 were due to disease, and 78 to accident. The average age at death from disease was 31; from accident, 26 years 1 month. The conclusions are that athletes are exceptionally liable to heart lesions, fatal complications of pneumonia with heart trouble, infectious diseases and consumption, and that they average much shorter lives than other persons. Surely this old medical scare ought to have died a natural death long ago.

Here's a Useful Tip.

"MY friend, when you set out to run down hill you will have no difficulty in getting plenty of shoves on the way," says Bert Walker. "Every few feet you will find some alleged friends who will give you a gentle lift that will increase your speed. But when you start up the hill you will have to do most of the work yourself. Occasionally you will find some one who will lend a helping hand for a few seconds, but as a general thing you will have all the pulling to do yourself. The reason is that it is lots easier to run down the hill than to run up. Friends are always ready to help you when there is no work. When the hour of toil comes they vanish like the night. The thing I am trying to impress on your mind is, Never start down hill. Always look up. Try to think that at the top of the hill is a rainbow with a bag of gold at its foot. Even though you seem to never reach the top you will be happy in the trying. There is more to see in the heavens than there is in the sand. Look up, friend, look up."

DIET MAKES THE MAN.

By A. Day Robinson.

DR. MUSSEY was one of the framers of the creed laying down the two principles of simple diet, and in much less quantity. The healing art has current some curious rules. One, "Stuff a cold." The second, "Feed well, if you feel weak." A third, decidedly Napoleonic, "A man moves on his stomach, like an army." And the strange part of it is, a person uses these rules all the more, as sickness and weakness increase, until he winds up with a fever or diseased bronchial tubes.

The statement will not be challenged by the medical profession that every year thousands fling themselves into untimely graves, by excesses at the table, believing them a necessity.

The saving gospel to a mighty host of invalids is: Limit your diet. Do not starve, eat sawdust, or drink skimmed milk, but cut off a respectable portion from every meal. Stuff a cold! The very condition of a cold's departure is that the system must be freed from an excess of solids and liquids.

Feed up if you feel weak! Often the very thing which makes weakness is too much food. The chemical laboratory of the stomach becomes used up and needs rest, and to eat heartily adds to the weakness. We never work a weary limb to get strength. Of the two kinds of overwork for the poor body, labour, and the overtaxing the chemical power of the assimilative and digestive organs, where one gives out from the first fault, fifty give out from the second.

If the inner bodily tissues are given enormous labour by flinging down before them large quantities of food to be converted into blood and fibre, then these batteries are damaged. If the tissues are relieved, and work moderately, then labour will not become exhaustive.

The strains which bring disease are not usually on the muscles or brain, but on the digestive and other internal organs. Rub this fact into the innermost conscience until it reaches the convictions—the greatest cause of disease is the *overworked man.*

The cure of careful feeding has reached the heft of a host of physical troubles. Dr. Mussey tried it successfully on asthmatics reduced to skeleton thinness. When they grew fat on bread and water in limited quantities, he went on to the dyspepsia dragon, prescribing pills and prescribing bread and water—in small quantities.

The crusty Dr. Abernethy helped more feasting Saxons out of bilious troubles than any other physician. His one rule of diet for a man sick with indigestion was—twelve ounces of bread per day, with an interval of six hours between meals. The treatment cured hundreds.

Dr. John Ware, of Boston, revolutionised his method of curing dyspeptics by adopting limited meals for those suffering from that unamiable devil, a torpid liver, his own later diet is not a bad prescription. At breakfast a cup of tea, one baked apple, and one thin slice of toast. For dinner, a piece of meat as large as two fingers, one spoonful of squash, and one of potato, or their equivalent. No more. No bread, pie, pudding, or dessert, only a tumbler of water. A baked apple and cup of tea, he called his supper. Before retiring, a cup of hot milk and biscuit. The diet made him a different man. It checked a disease of the brain that for many years he was sure was in progress. It allowed him to carry on a large practice in the daytime and work past midnight prosecuting his studies, besides adding to his life, and taking away years of depression.

When it is remembered that our usual diet goes up to two pounds, often four, and sometimes to six,—a sick man or woman is nearer the average type in a community, and the perfectly well person a wonder.

Is there not room for vast reform in our loaded tables?

THE IDEAL OUTDOOR HOBBY.

By "Camera."

TO those who are daily inhaling the smoky atmosphere of our great cities, whose brains and bodies become wearied with the hurry-scurry of business life, photography offers a profitable and health giving employment for leisure hours, opening up fresh fields and pastures new to the jaded clerk, and acting as an antidote to the deadening influences of daily toil. The practice of photography strengthens the body and educates the mind. To become proficent the photographer must go into the bye-ways and lanes of the country, to the lakes and the rivers, to picturesque landmarks, or weather-beaten ruins. To catch Nature in her varying moods, to depict the exquisite work of merry Jack Frost, whose delicate tracery relieves the sombre ruggedness of winter scenery; to portray the beauties of the country as the morning mists roll away, or when its sharp outlines are softened by the gloom of approaching evening—these all lie within the scope of photography. Not only is the body invigorated by the pure atmosphere, but the mind is elevated by contact with Nature. On every side are seen marks of an all beneficent Providence, the contemplation of which cannot but be productive of good. Even in that which has hitherto been deemed commonplace, the photographer discovers new interest; Nature becomes familiar to him, and fresh beauties are discovered and permanently recorded; and, when days are dark and life is drear, a glance at these mementoes of old familiar scenes will create innumerable pleasant recollections.

As a mental stimulus photography cannot be excelled. Many a weary city man at the end of the daily routine feels utterly unfit for deep study, and attempts to find in the music hall, the public-house, or the streets that relaxation which is necessary to keep the brain in perfect unison with the rest of the body. Happy indeed is the man who, instead of wasting time in such questionable recreation, can take up the working of some photographic process—the development of plates exposed the previous week-end, the toning of prints, or making of enlargements. Such work will act as a tonic to the mental system, and restore to the mind that elasticity which is necessary for the thorough performance of business duties. Apart from these considerations, photography is an education in itself, alike as regards the processes that have to be learned—from the exposure of the plate to the production of a finished print—and the increasing interest which one pursuing the art is led to take in things around him. The intellect is brought into use, judgment is exercised, and knowledge gradually acquired, even if no systematic study be made of the scientific side of the subject.

It is not an expensive hobby. To many readers photography assumes an alarming aspect as they begin to ponder over the probable cost of the necessary tools. Visions of costly mahogany cameras with brass fittings, high-priced lenses, plates, lamps, papers, and all the paraphernalia of a photographic outfit cross their mind, and appear of such magnitude that they at once say, "Such a hobby is out of the question; I cannot afford it." And yet the writer has in his collection portraits, river scenes, bridges, country lanes, old fashioned houses, ruins and clouds—a never-failing source of pleasure to himself and friends—the whole of which have been taken with apparatus costing less than a guinea. Of course, it is not to be understood that a first class camera and the necessary supplies can be obtained for the above sum; and where a costly outfit can easily be afforded, the enhanced quality of the work produced thereby will be at once apparent.

To sum up, then, photography offers a wide field of amusement; it is a health-giving pastime; it cultivates the artistic side of human nature and quickens the perception of natural beauties; it takes away the thoughts from the ever busy, hard working world; it increases general knowledge; and, last but not least, these advantages may be enjoyed for a moderate outlay at the commencement and the occasional expenditure of a few shillings.

ILLNESS CAUSED BY BAD AIR.

TO say that bodily health and activity are conditioned by the quality of the atmosphere introduced through the lungs into the blood is a trite remark, but it is none the less useful to study the extent of the application of this doctrine. Possibly the general attention is mainly directed to the grosser contaminations due to the introduction of poisonous fumes, smoke, and other by-products of industrial activity into the atmosphere, though the general indignation also recognises, more or less fitfully, however, the inconveniences which arise from the imperfect ventilation of public rooms and conveyances. The more subtle dangers which may lurk in the atmosphere, and the responsibility of the individual for many of these, receive a much slighter measure of attention. Yet in all probability it is from these directions that the more widespread evils spring. The degree of danger in an imperfectly renewed atmosphere in human habitations is, says the *Hospital*, not to be measured merely, or even mainly, by an increased percentage of carbonic acid gas. Inimical as this production of animal respiration undoubtedly is, there are yet in the air that has been breathed substances much more prejudicial to health and vigour, and it is to these organic poisons that the ill results of imperfect ventilation are mainly due.

THE DIRECT EFFECTS

of these substances are bad enough in all conscience, but their indirect consequences are still more disastrous. If is, to mention but a single instance, impure air that paves the way for the operation of the tubercle bacillus, and thus is found the main explanation of the fact that the mortality from tubercular phthisis is in direct proportion to the density of the population, no matter in what town or country the observations are made. No one will deny that existing social conditions, which are beyond the limits of individual and perhaps even of corporate reform, tend directly to the promotion of these results. All the same, they can be modified in some degree by personal activity and by a quickening of the public conscience, and in aiding these methods the medical profession is rendering worthy social and imperial service. It is, of course, well known that the tubercle bacillus is largely disseminated by dust which has arisen from the dried expectoration of tuberculous patients, and that were attempts to check this successful, the disease would largely disappear. But it is hardly less important—and, indeed, in the meantime it may be of more immediate service—for the public to know that the ability to resist the inroads of pathogenic organisms is promoted by the breathing of pure air, and that many diseases which depend immediately upon a specific cause would be avoided by the existence of that bodily vigour which is prejudiced by the systematic use of ill-ventilated rooms. Diseases due to the air we breathe are in part, it must be allowed, and in existing circumstances, unavoidable. But they are by no means wholly so, and the perception of this by the individual citizen would mean a great gain to the public health.

Drink Lunacy.

FROM IDLENESS VIA INEBRIETY TO MADNESS.

REFERRING to inebriates, the report on the Irish prisons says :—

"Many amongst the illiterate classes turn to drink as the only means of passing their unoccupied time. They have no idea of any pursuit or even amusement in which to spend their surplus energy, and seek the association of the public-house. There are others, perhaps the majority, who have no desire to work, and whose drunken habits are the result of their idleness, and for these the training to habits of industry is essential. Sloth and intemperance often react upon each other; drink is the cause of idleness, and idleness is the cause of drink. The want of employment, whether from inability or unwillingness to work, is undoubtedly the primary cause of much intemperance."

The Prisons Board appeals for earlier and longer sentences.

In the report of the Scotch inspector under the Inebriates Acts one of the doctors says: "The compulsory treatment of inebriety, in my opinion, stands where the lunacy stood fifty years ago." Inebriety, or dipsomania, says this doctor, is a mental disease.

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Aldwych—At 8, "The Beauty of Bath." Mat. Sat. at 2.

Comedy—At 8.30, "Raffles." Mat. Sat. at 2.30.

Court—At 8.15, "You Can Never Tell" Mat. Wed. at 2 30.

Criterion—At 8.30, "The Prince Chap." Mat. Sat. at 2.30.

Lyric—At 8 30, The Moody Manners Grand Opera Co.

Prince of Wales'—At 8.15, "See-See." Mat. Wed. at 2.15.

St. James'—At 8.15, "His House in Order." Mat. Wed. at 2.

Vaudeville—At 8, "The Belle of Mayfair." Mat. Wed. and Sat. at 2.15.

Wyndham's—At 2.15, "The Girl behind the Counter." Mat. Wed. at 2.15.

New Theatre—At 8.30, "Amasis." Mat. every Sat. at 2.30.

His Majesty's—At 8, "The Winter's Tale." Mat. Wed. at 2.15

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